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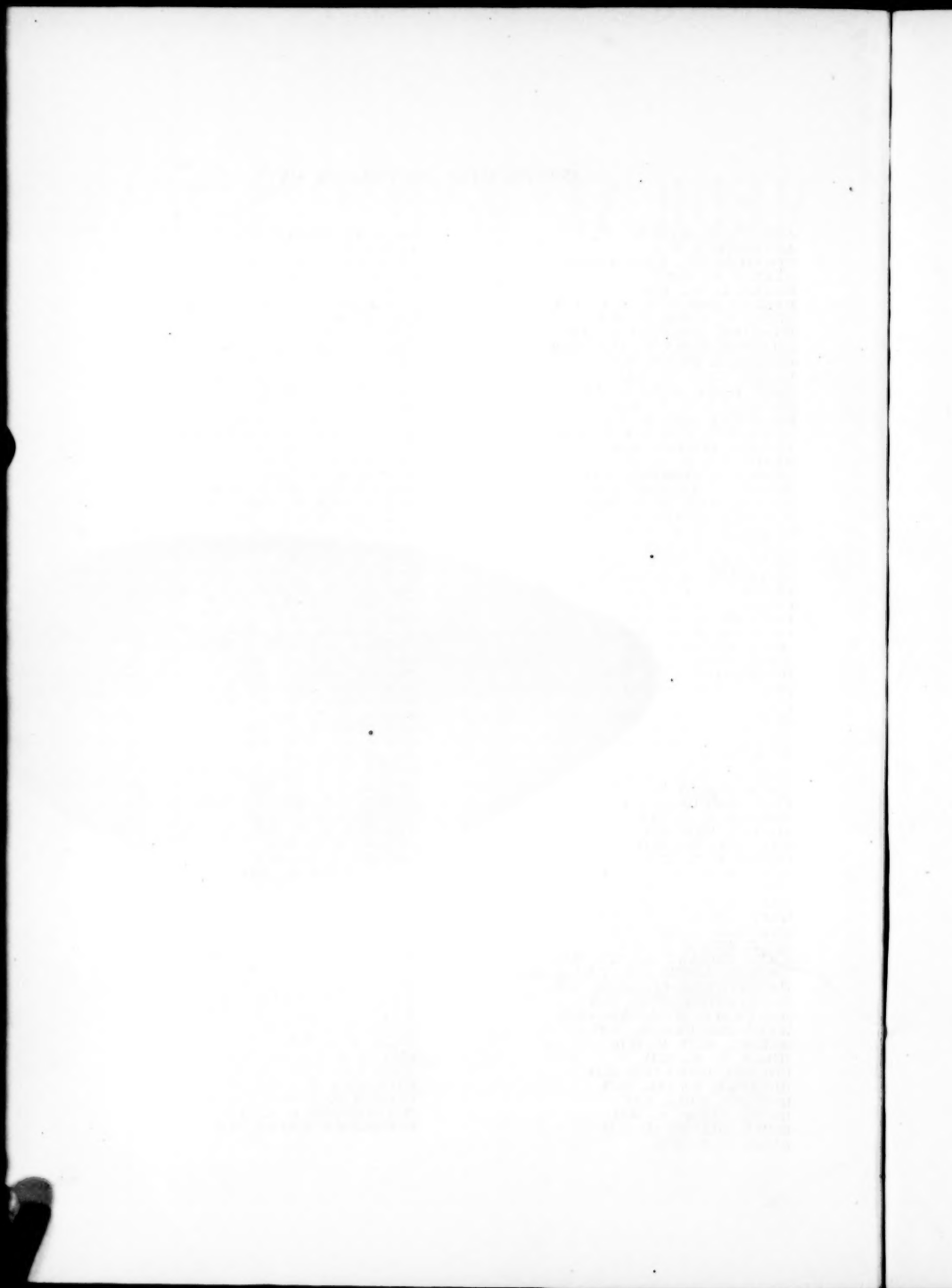
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## Original Articles.

THE INTESTINAL SUTURE.<sup>1</sup>

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THE subject of intestinal suture is one of such great interest and importance to-day, that I cannot do it full justice in this short paper. But I have endeavored by a brief review of its early history and a more close consideration of its development in the past few years to give a clear idea of the technique of the modern operation.

That this operation also is "no new thing under the sun" is shown by the fact that it was known to Celsus and practiced by many of the surgeons of early times. But notwithstanding that here and there isolated cases were operated upon, and intestinal wounds united by suture in some manner, it was still generally believed, that to meddle in any way with a tender and inflamed intestine, and above all to introduce sutures into it, was a grave and entirely unwarranted procedure. Total division of the intestine was, up to the beginning of the eighteenth century, looked upon as a necessarily fatal condition. Palfin taught, in 1710, that intestinal wounds could not unite, and advocated stitching the bowel to the abdominal wall so as to establish an artificial anus.

But the fact remains that many ingenious and often successful methods were adopted for the closure of intestinal wounds. In the Middle Ages Abulcasem and others made the most daring experiments with this operation. Roger united the intestine over a piece of elder tube, other operators used rolled pasteboard cards, pieces of candle, cork, swine's bladder, dried intestine, and the trachea of an animal.

The latter appears to have been the favorite among the materials thus used, and this method received the name of the Suture of the Four Masters, from its having been used by the four celebrated monks who practiced surgery together at Paris in the middle of the thirteenth century. I may here state that, according to Rydygier, all references to intestinal suture performed in early times, are made in regard to transverse or longitudinal wounds, as the first recorded resection with union of completely divided intestine was the operation done by Duverger in 1837. It is useless to discuss here how the great authorities of different times, and contemporaneous operators, differed in regard to the safety of intestinal suture. Scaupa was opposed to every suture, while Jobert, Reybard, Larrey, Lambert and others were in favor of their use.

In all the early methods, however, the main idea was to approximate the edges of the wound, in a general way, so as to give them an opportunity to heal together, but no definite rules were given for uniting them in any particular manner.

The great epoch in the history of this operation came in 1826, when Lambert, then an interne in one of the Paris hospitals, and a contemporary of Jobert's, who was also an interne, declared that in order to obtain union of sutured intestinal wounds the great essential was to procure careful apposition of the serous coats, and since then this has been the established fact upon which the foundation and success of all following methods have been based. Owing to a

misprint in the first publication of the method Lambert was substituted for Lembert, and hence the frequent misquotations made even at the present time.

But a short time previous to Lambert's discovery, Jobert had published an account of his Invagination Method, and it is not at all unlikely that in the study of it Lambert's idea found its source.

This consisted in invaginating the lower end of the bowel, and then drawing the upper down into it and fastening it in place by means of sutures, two or more in number. These sutures passed through the whole thickness of the bowel and were intended to finally cut their way through and pass off with the stool. This method approximates the serous coats more or less closely and gives quite good chances for union. Its disadvantages, however, are that under ordinary circumstances it is impossible to determine which is the upper end and which the lower end of the bowel. The calibre of the intestine is also too much reduced and the edges of the intestine form a flap which, if the bowels have been inverted in position, will act as a valve giving rise to more or less, often complete and fatal obstruction. It is also necessary to separate the mesentery from the invaginated and inserted portions of the bowels, and this may cause local gangrene from loss of blood-supply.

Reybard's method was particularly adapted to the closure of intestinal wounds with loss of substance. A thin piece of wood was inserted into the intestine, large enough to overlap the edges of the wound. To the centre of this was attached a double thread, each end of which was passed through the abdominal wall at one side of the external opening, and the bowel then drawn firmly against the wall of the abdomen so as to enable it to become attached and thus close the wound.

This method, like that of Palfin and other operators who insisted upon the necessity of fastening the bowel in some manner close to the abdominal parietes, had the advantage of giving the best chance, should union fail to take place, for the formation of an artificial anus, or a localized abscess by means of peritoneal adhesions.

Undoubtedly when union of the intestinal wound did occur after these operations it was because the serous surfaces had been well brought together, but that this was the great essential, none of the operators



FIG. 1.

FIG. 2.

up to the time of Lambert had recognized. He, as already mentioned, was the first to discover the fact since abundantly proved by experiment, that inflamed serous surfaces when in contact tend to unite with great rapidity. A serous and mucous coat will not unite, and mucous surfaces heal together but slowly. Lambert, therefore, made his suture so as to give the best opportunity for this adhesion of serous surfaces. Figs. 1, 2 and 3, in which the suture includes only the serous and muscular coats, illustrate the manner of making this suture.

As readily seen, the edges of the wound are always

<sup>1</sup> Read before the Surgical Section of the Suffolk District Medical Society, May 6th, 1886.



FIG. 3.

nically inverted when the stitches are drawn together. Lembert used the interrupted stitch. Numerous modifications of this suture have since been made, and from among them the operator of to-day must make his choice.

Before considering the modifications of Lembert's suture it will be interesting and possibly of value in connection with emergency cases, to speak of a few methods in which Lembert's principle has been applied without the use of sutures, or with but slight aid from them.

Dedan's ingenious apparatus for uniting completely divided intestine consisted of three rings of silver or tin. Two of these were similar and of a diameter slightly less than that of the intestine. The third was equal in length to both the others but smaller in diameter. The two shorter rings were inserted into the bowel and the ends of the latter invaginated over their inner surface. The third ring was then passed inside of these so that the divided ends met midway upon it. The whole apparatus was held in place by passing a suture threaded at both ends first close to the edge of the rings above and through the inner ring then out again at the edge of the rings below. At each end the needles were now passed in at the point of the former needle puncture, and then up between the outer rings and the bowel to where these rings came together. The needles were finally passed out through the intestine and the suture tied together. The rings were thus held in place and the serous surfaces enabled to unite. After a time the edges of the outer rings cut their way through the portion of bowel included between them, and the apparatus passed off with the stool.

The method of Beranger-Ferand is also very ingenious and was for the union of transverse or longitudinal wounds. Two thin pieces of cork were cut into prismatic shape with a width of about six mm., a thickness of two mm., and a length slightly greater than that of the wound. Small insect-pins were passed through these, their heads being covered in with sealing wax. One of these pieces was introduced into the bowel and the pins passed through the edges of the wound on one side about two or three mm. from its border. The other piece was placed in a similar manner on the opposite side. The edges of the wound were then inverted and the two pieces pressed together. An additional safeguard to their separation may be made at either end by inserting a piece of bent wire, and after the two pieces have been united, pressing this in from the outside. The wound was thus held together and the serous surfaces allowed to unite. The portion of bowel included between the pieces of cork soon ulcerated through and the apparatus passed off with the intestinal contents.

Amussat passed the ends of the divided bowel over a piece of cork deeply grooved in the centre. The ends were made to overlap slightly and the bowel then tied tightly down into the groove with a ligature. This also accomplished the desired result and after a time was discharged from the bowels.

Many other methods of suture, such as those of Gely, Emmert, and other operators are ingenious and interesting, but as they are no longer of much practical value, their description will be here omitted.

Probably the first change in Lembert's style of suture was that made by Czerny, who proposed to unite not only the serous coats but the edges of the wound as well. This he accomplished by using a double row of sutures (Fig. 4). This forms a sort of "Etage Naht" and is certainly, aside from the time it requires, a valuable adjunct, as it serves to protect the Lembert stitches by keeping the intestinal contents away from them. When this suture is made with the Kürschner stitch for the first row it does not require much time.



FIG. 4.



FIG. 5.

Gussenbauer then thought of doing this all with one suture and made his figure-of-eight stitch (Fig. 5). This is an ingenious but complicated suture and has the objection that should the lower portion ulcerate through, the whole stitch would become loosened and thus give rise to the escape of intestinal contents.

The Kürschner suture is a continuous one and (Fig. 6) is made by tying the first stitch and then proceeding as with any continuous suture, puncturing the intestine from within outwards, and fastening the whole, when completed with a seamstress's knot. This is a very rapid and simple suture and closes the wound nicely. Nussbaum prefers it to all others and says, "The simple interrupted suture like Lembert's is very much harder to make, the needle must be laid aside ten or twenty times and the scissors taken in hand, while with the Kürschner suture this need be done but twice."



FIG. 6.

The remaining methods of intestinal suture which I am to describe are of very recent date, and have been used altogether for uniting the ends of resected intestines.

First, we have the method of Neuber used in operating for the cure of artificial anus and made as follows: A circumscribing incision was made through the skin about the anal orifices. The skin was then dissected away from the fascia beneath, and the edges of the flaps thus formed united with a continuous suture so as to prevent the escape of intestinal contents. The ends of the intestine were then loosened and brought down (Fig. 7). The abdominal wound was now closed by provisional sutures, as recommended by Madelung, so that just enough room remained for the ends of the intestine drawn through the wound (Fig. 8). The intestine thus constricted closed the abdominal wound, and prevented the entrance of fecal matter into the field of operation. The bowel was now held by digital compression and after removing a sufficiently large piece of mesentery and tying the bleeding vessels the ends were cut squarely off. (Fig. 8). Neuber now sutured the ends of the bowel together over a piece of decalcified bone tube.

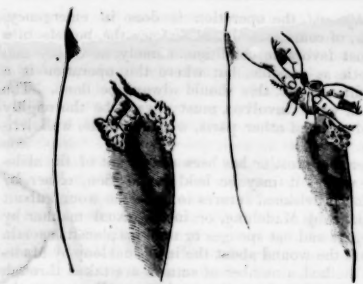


FIG. 7.

FIG. 8.

This tube was about two cm. in diameter, and turned so as to bulge in the central portion and have a deep groove in the middle line (Fig. 9). The sutures were made as follows: First before inserting the tube the ends of the bowel were united by two or three interrupted sutures, taken at the mesenteric insertion. The tube was then inserted and the ends of the bowel drawn closely together over it. The ends were now united by a number of Lembert stitches (Fig. 10 a). The intestine was then drawn down into the groove by means of a constricting "suture" or ligature (Figs. 10 b, and 9), and finally in order to get a most exact union of serous surfaces still another row of interrupted Lembert stitches was taken about one cm. apart (Fig. 10 c, and Fig. 9). Thus finally (Fig. 10 c, and Fig. 9) there was, in the depths of the groove the first row of interrupted sutures, then the constricting "suture" or ligature, and finally an outer row of interrupted sutures.



FIG. 9.

As advantages of this method Neuber claims, first, the ease with which it is performed, it being much easier to sew upon a firm foundation than otherwise. Secondly, the wound of the intestine is protected by the tube from contact with the intestinal contents. Neuber, to obtain the best possible asepsis, powdered a little iodoform into the groove. Thirdly, the tube maintains a free passage for the intestinal contents, which is not always the case with some of the other methods, where at times the collection of fecal matter above the wound owing to more or less stenosis forms a serious and even fatal complication.



FIG. 10.

The intestine has been united in this manner after resection at the Kiel clinic three times, twice by Neuber and once by Schlange, and each time with success. Experiments upon animals have shown that

after from four or five days the decalcified tube disappears. In the cases at the Kiel clinic, careful examinations of the dejections failed to give any trace of the tubes.

Professor Madelung, of Bonn, having in view the fact, well established in experimental pathology by Lister, Maas, Tillmans, Rosenberg, and others, that pieces of living tissue or other substances, when made aseptic, could be placed in the peritoneal cavity, and there become imbedded or encapsuled, and gradually absorbed without causing suppuration, devised what he calls the cartilage-plate suture. This suture is made as follows: The costal cartilage of a young calf is first cut in thin slices, which should have about the thickness, Madelung says, "of sections made by beginners in microscopic work," and the circumference of a small lentil, from four to six millimeters. These slices are prepared in the same manner as antiseptic silk. The ends of the bowel are first united with a Kürschner suture. A No. 12 needle is now threaded so that its eye comes at the middle of the suture. The ends of the suture are then tied together in a double, or better, a treble-knot. The needle is now passed through the centre of one of the cartilage-plates, and the suture drawn through until the knot

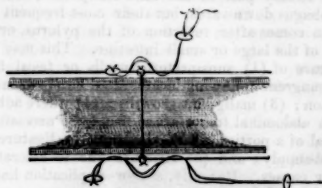


FIG. 11.

comes firmly against the plate. With the suture thus prepared, the needle is passed in the usual manner through the sero-muscular layer of both ends of the bowel, and then through a second cartilage-plate of the same size as the first (Fig. 11). The suture is now cut off close to the needle, and again tied in a treble-knot firmly down to the second plate (Figs. 11 and 12).

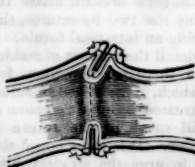


FIG. 12.



FIG. 13.

With the use of this suture, Madelung claims that it is possible, with a much smaller number of stitches, to obtain sufficient contact of the serous surfaces. Circular cutting through of the tissues by the suture is here avoided. If the wound of the serous coat made by the needle is enlarged a little by drawing upon the suture, the cartilage-plate will cover in this opening. Madelung hopes that his suture will not be looked upon as too complicated, and affirms that it is simple and practical in its application.

Mr. Bishop, of Manchester, England, has recently

devised a very ingenious suture, a full and illustrated description of which will be found in last year's January number of "Braithwaite's Retrospect." This suture is unnecessarily complicated, and presents no particular advantages. Besides, being made in a single row, it should not involve the mucous coat, which it does. It has only been used in experimental operations.

So much for the different methods of suturing the intestine. From the first Lambert suture made with the single interrupted stitch, down to the most recent of the after-coming methods, which I believe to be those of Neuber and Madelung, all have been sufficient to secure, with varying frequency of success, union of the ends of a divided intestine, or the edges of transverse and longitudinal intestinal wounds. No method has yet been devised which stands preëminently above all others. That one is the best which secures and maintains the most perfect and undisturbed contact of the serous surfaces with the least reduction of the intestinal calibre, and it will be a matter of personal choice and experience in deciding which one best answers these requirements.

The various forms of intestinal suture may be applied to any part of the alimentary tract from the œsophagus downwards, but their most frequent application comes after resection of the pylorus, or some part of the large or small intestine. This may be for the cure of (1) anus-pretrenaturalis or fœcal fistula; (2) gangrene following incarcerated hernia or intussusception; (3) malignant growths; (4) where adhesions to an abdominal tumor are so firm as to necessitate removal of a portion of the intestine or ligature of its blood-supply; and (5) stricture due to ulceration or other causes. Recently, a new application has been found in Wölfler's operation of gastroenterostomy, a procedure similar to the method illustrated in the "Surgical History of the War of the Rebellion," for uniting two simultaneously-wounded knuckles of intestine, with Gely's suture. Wölfler's operation, suggested to him by Nicoladoni, during a pylorus resection, where, on account of too extensive disease, the pylorus could not be removed, consisted in taking the loop of small intestine nearest the stomach, and after making a longitudinal opening in it, and a corresponding one in the stomach, a finger's breadth above the gastro-colic ligament, uniting the two by sutures, this being done instead of forming an intestinal fistula.

Let us now consider in detail the manner of making the intestinal suture. As there are now very few cases of intestinal lesion, which, if they lead to suture at all, would not be best treated by total resection of the affected portion, I will speak of the suture as applied in the latter operation. It is to be hoped that it is no longer necessary to urge the strictest adherence to the rules of antiseptic surgery, and also that any surgeon who will take upon himself the responsibility of such an operation, should it come as a case of emergency, has always in readiness all of the necessary materials, such as antiseptic sponge material, silk, catgut, needles, etc. It is also necessary to have practised the operation a number of times on post-mortem material, or in experimental operations. The operation should never be hurried; within reasonable limits, the amount of time taken, one hour to one and one-half hours is of no great importance. As far as the success of the operation as such is concerned, the greatest danger lies in failure to apply the stitches

perfectly. If the operation is done in emergency, there is, of course, no chance to get the bowels into the most favorable condition, namely, as empty and antiseptic as possible, but where the operation is a premeditated one, this should always be done. The stomach, when involved, must always be thoroughly washed out, and other parts, when possible, well irrigated.

After the intestine has been drawn out of the abdominal wound it may be held in position, either by applying provisional sutures to close the wound about it, as done by Madelung, or in the usual manner by the fingers and flat sponges or napkins placed beneath. To close the wound about the intestinal loop by Madelung's method, a number of sutures are taken through the abdominal parietes just as they usually are at the end of an operation, and after drawing the wound together tied in a beau-knot so as to be loosed at the end of the operation, when the bowel is to be replaced. They are then used with the additional necessary ones to close the abdominal wound. This method has also been used by Veit, of Bonn, in ovariectomies to prevent the protrusion of intestines while tying the vessels in the pedicle.

Now, when the intestinal loop is fixed, the bowel

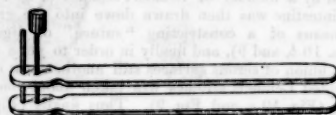


FIG. 14.

must be compressed above and below the portion to be resected, so as to prevent the escape of intestinal contents into the field of operation or the abdominal cavity. This may be done by (1) digital compression, (2) long-bladed forceps with or without covering, (3) provisional ligature with stout catgut or silk, (4) various clamps devised for this purpose.

Rydygier's clamp consists of two flat pieces of iron notched at the ends and enclosed in rubber-tubing. They are fastened with rubber-bands. Makins' clamp is a large bull-dog forceps with a screw closure, the blades to be covered with rubber-tube. I have had made a clamp similar to the Dupuytren-Blasius, one for the cure of artificial anus (Fig. 14.) Its advantages are supposed to be, that the blades, which are also to be covered with rubber-tubing, are kept parallel and the pressure thus made equable. The screw is so arranged, by being weak and not bringing the blades entirely together, that too great pressure cannot be employed. When polypus forceps or other clamps closing at an angle are used, the pressure at the inner part is apt to be too great and give rise to sloughing.

Digital compression is very good but in a long operation the fingers are apt to become very tired, and are, above all, much in the way.

A provisional ligature passed through the mesentery and around the bowel closes the canal very thoroughly but if tied too tightly will give rise to gangrene. It also wrinkles the bowels more or less, which may at times be an inconvenience.

After having closed the bowel in some manner the next step is either to resect the desired amount of intestine with its triangular piece of mesentery and then tie the vessels, or tie the vessels first and then remove

the intestine and mesentery. It seems to me it is much better to first tie the vessels and then remove the bowel with its mesentery. The vessels going to the bowel can be plainly seen or felt and the elimination of the blood-supply made with such exactness that very little if any bleeding will occur after the intestine is divided. The field of operation is thus kept much cleaner. The only objection to this method is that it is said to require more time, but the difference, if any, is very slight and not important.

One important point must now be remembered, and that is, to resect, no matter how much this may increase the difficulty or length of the operation, all intestine which has had its blood-supply removed. This, as already stated, is always easily determined. Operations which might otherwise have been brilliant in their results, have ended fatally through neglect of this point, the post-mortem examinations having shown that gangrene of intestine thus deprived of its blood-supply always occurred.

After the bowel has been resected any contents which may escape from the portions beyond the clamp, must be carefully wiped away and the ends thoroughly cleansed before commencing the suture. At this point, if no clamps have been used it can be seen how difficult it is to distinguish the upper from the lower end of the bowel, for if both contain ingesta they will escape in about equal amount from either opening. The character of the escaping contents is an indication as to what part of the intestinal tract has been opened.

The intestines are now to be united according to the suture employed. The edges of the protruding mucous membrane may now be trimmed off, but this I think inadvisable and of no particular benefit. What seems to me to be the best of the simple sutures is, practically Czerny's, but differs from it in having the first row made with a continuous suture. The first row may be made with the Kürschner suture. For the outer row I used in an experimental operation a suture, which I do not find described, but which may be called a continuous Lembert suture. This was what I understood to be Kürschner's suture, but that suture as described and figured by Nussbaum perforates all the coats from within outwards. The continuous Lembert suture is simple and a great saver of time. It is merely the Lembert stitch made with a continued instead of interrupted suture.

If the material for Neuber's or Madelung's suture is in readiness they too might be used, and from the success which has thus far followed them, no failure of union having occurred, they are probably as certain, if not more so, than any of the others.

Bishop claims as advantages of his suture the fact that the knots are all made on the inside, and after ulcerating through, the stitches pass off with the stool. But the desired object to-day is to have the stitches become encapsuled or absorbed and not cut their way into the bowel. This should be the case with one row at least.

In making the suture it is always best to begin at the mesenteric insertion. This is the most difficult part to unite as the peritoneum over the mesentery is apt to tear away. If this occurs stitches may be later taken, outside of those that tear away. It is much better to hold the folded intestine gently between the fingers and sew with a straight needle and without forceps or needle-holder (Fig. 15). The intestine is

thus injured as little as possible and the suture, by avoiding the constant change from forceps to needle-holder, and *vice versa*, made more rapidly. In pylorus and other operations involving thicker parts, forceps and needle-holder should be used. The needle should be introduced so as to leave, in making a single row suture, two or three mm. of intestine beyond the needle puncture nearest the wound border (Figs. 1, 2, 3). Three or four mm. should be lifted upon the needle each time in sewing (Figs. 3, 4, and 5), and from the thickness of this portion which can be well judged it can be seen how much of the intestinal wall is being included in the stitch. The suture is now continued around the bowel. The stitches should be taken very close together, two or three mm. apart, as what may appear to be close stitches in the contracted bowel, will, when there is distention, as with flatus, be perhaps quite far apart. When this suture is ended it should be thoroughly inspected, and any point where good apposition is doubtful or where the suture has torn away at all, reinforced with one or more extra single stitches. The edges of the mesentery should then be united with a few interrupted sutures. After removal of all clamps and other accessories to the operation which may have been placed about the bowel or elsewhere, the intestine is carefully cleansed and dropped back into place. The abdominal wound is then untied in the usual manner.

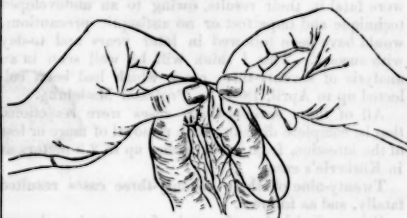


FIG. 15.

The needles used should always be plain, straight, round sewing needles and of the smallest size. A No. 12 English Pearl sewing needle is what is generally used, threaded with the finest conjunctival silk or Japanese silk twist. A No. 10 or 11 needle seems to me to be sufficiently small and is somewhat more convenient to use on account of its length. The finest catgut may also be used, but it is less pliable and above all requires a much larger needle and therefore necessitates a larger puncture wound. The suture may be threaded while dry, and then disinfected. This is done by tying the ends of the threads together and holding the needles in forceps or otherwise and then boiling them one hour in five per cent. carbolic acid solution. (Czerny's method). If it is desired to keep them in readiness they may be placed in alcohol where the needles will not rust. Rydygier in a large number of experimental operations always used catgut and never failed to get good results in cases of simple resection. But aside from the objections already made to catgut is the additional one that should suppuration occur about the wound, or pressure come from fecal masses moving down from above the wound, the silk would be there to resist their tendency to separate the freshly united surfaces, long after the catgut had disappeared. The antiseptic silk becomes readily encapsuled and may

be sewed or tied in anywhere. In order to become encapsuled it must of course remain antiseptic, and since stitches which perforate the mucous membrane must absorb more or less of the intestinal contents they should, it seems to me, never be taken unless it is desired to have them cut their way into the bowel. In addition to this, such stitches make a puncture wound through the wall of the bowel from which fluid contents may escape into the peritoneal cavity.

I have already stated that any disease or injury of the bowel, excepting slight wounds, where intestinal suture is needed, would probably be best treated by total resection of the affected portion and union of the divided ends. This I hold to be so from the fact that other operations necessarily lead to a large degree of stenosis at the point of suture, while in uniting the ends of a resected bowel, the largest possible calibre is obtained. This may be still increased by adopting a method advocated by Madelung and Weber of dividing the ends of the bowel obliquely so as to increase the room for passage at the point of union.

From the nature of the intestinal blood-supply, the edges of the bowel after resection are sure to have an abundant source of nourishment and therefore when properly sutured to unite with certainty.

Finally, let us consider briefly the value of this operation. Statistics are of but little weight in this connection as many of the early operations which were fatal in their results, owing to an undeveloped technique and imperfect or no antiseptic precautions, would have been followed in later years and to-day with success. This I think will be well seen in an analysis of seventy-three cases which had been collected up to April, 1881, by Professor Madelung.

All of these seventy-three cases were resections, that is, complete division, with removal of more or less of the intestine, from a few inches up to 2.5 meters as in Körberle's case.

Twenty-nine of these seventy-three cases resulted fatally, and as follows:

Fifteen died before the end of twenty-four hours, and one other case was probably as rapidly fatal, but owing to incomplete report this is not certain.

One death occurred on the operating table from the entrance of vomitus into the trachea.

Death never followed after the thirteenth day.

Death was due in one case to embolism of the pulmonary artery from an old venous thrombus of the thigh, and occurred four days after the operation.

One patient died from delirium potatorum, and an insane patient from oedema of the brain.

Twice death was due to other simultaneously received wounds.

In six cases peritonitis had already begun at the time of the operation, and was the cause of death.

Three deaths are referred to "wound shock" and inanition marasmus.

One death was caused by stenosis of the intestine, due to a pseudo-ligament below the point of suture.

Five times fatal peritonitis and acute sepsis developed immediately after the operation. In three of these cases fecal matter escaped into the abdomen during the operation.

In seven cases death occurred during the period of convalescence, peritonitis following the escape of fecal matter through the resection wound. Twice this escape of fecal matter was due to incomplete resection of the gangrenous portion of the bowel, and in the

other five to failure to completely close the wound with the suture.

Of these seventy-three recorded operations, fifty-two, with thirty good results, were performed in the years from 1877 to 1881, and the successful operations in this period are, without exception, those of German, Swiss, and Austrian surgeons; and Madelung says: "We have a right to be proud of the blossom to which this branch of operative surgery has come in our day, but we must, nevertheless, understand that only the first step has been made on the new way."

There is no longer any doubt as to the safety of opening the peritoneal cavity, granting, of course, that it is done in the proper manner. The peritoneum, far from being a membrane of the most vulnerable sort, as it was formerly regarded, bears with the greatest tolerance an astonishing amount of cutting, burning, tearing, and manipulation. From the time when the surgery of the serous cavities was limited to a timid approach to the opening of some of the smaller joints, it went on to the free drainage of the chest for the cure of empyema; and so it will be, if it is not already, with the surgery of the abdominal cavity.

Numerous cases of peritonitis, where the parts have been found "glued together and bathed in pus," have been treated by abdominal incision and thorough washing out of the abdominal cavity with large quantities of water, and have made good recoveries. At our last meeting, Dr. John Homans reported a similar case.

To two influences, however, the peritoneum is greatly susceptible, and they are septic absorption and loss of heat. Unlike the skin, naturally adapted to protection from rapid loss of heat, the peritoneum is a moist, evaporating surface, from which, when exposed to the air, the loss of heat is constant and rapid. Wegner, in his valuable investigations and experiments, found, in a medium-sized woman, the area of the skin-surface to be 17,502 sq. cm., while that of the peritoneum was 17,182.

By exposing the peritoneum to rapid loss of heat, a reflex paralytic influence is exerted upon the heart, and unless warmth be rapidly applied, death occurs from collapse.

If an ice-compress is laid upon the exposed intestines of a dog, the heart instantly ceases to beat, while, as Wegner found, a stream of warm vapor may be directed upon them for seven or eight hours without injurious effect.

Wegner further found that animals into whose peritoneal cavity he had injected large quantities of salt solution at the body temperature were never injured by the procedure, but moved about in as lively a manner as ever.

The capacity of the peritoneum for absorption, and, therefore, for infection, is indicated by the fact that in one hour, fluid equal in quantity to eight per cent. of the body weight may be taken up from its cavity, and in two days an amount equal to that of the entire weight of the body. A quantity of chloral solution injected into the peritoneal cavity exerts an almost instantaneous soporific effect. The large peritoneal area and the peristaltic movements are also elements aiding the rapidity of absorption.

These facts present their own argument, and are clear indications of what it is necessary to avoid in peritoneal operations.

Let us, then, hope that when occasion arises for the application of intestinal suture, no traditions in regard

to the dangers which it involves will prevent its being used according to the means of to-day, and many lives thus saved or made comfortable. Without exception, when done with no technical failure, the operation has, in the last few years, been successful, and where death has occurred, it has been not because the intestinal suture failed to accomplish its object, but owing to other conditions involved in the nature of the case.

In conclusion, let me say that to the consultation of various works, mostly recent German ones, I am indebted for the majority of ideas and figures presented in this paper.

### EXCISION OF ELBOW: LOCAL ANÆSTHESIA BY COCAINE.

BY H. W. CUSHING, M.D.

In the case to be reported, the Corning method for producing local anesthesia by cocaine was employed for the purpose of ascertaining its adaptability to major operations.

The method consists in confining a cocaine solution injected subcutaneously in the field of operation by obstructing the circulation, and thus prolonging the anæsthetic effect at will.

The apparatus required is an Esmarch bandage, a flat-band tourniquet and clamp, a subcutaneous syringe, with short and long needles, and cocaine solution.

The operator first dilates the veins of the selected region by compressing the main afferent vessels with the tourniquet, and then maps out their position with a crayon pencil.

The tourniquet is now removed, the limb exsanguined by an Esmarch bandage applied in the usual way, from the distal end to a short distance below seat of operation. The cocaine is now injected superficially over the desired area as rapidly as possible, each injection being 2 to 5 m. of solution, and each succeeding puncture being made at the edge of the reddened surface from the preceding one. When the skin is anesthetized, the drug is injected into the deeper tissue in amounts of from 1 to 2 minims, and the solution forced out of the needle as the point descends through the tissues, so as to diminish the pain before it pierces them.

When the injection, which, according to the originator of the method, should not require more than five minutes, is completed, the tourniquet is applied a short distance above the anesthetized zone, the Esmarch bandage removed, and the patient is ready for the surgeon.

If the anesthesia is found incomplete either by exploratory punctures or after the operation has been commenced, supplementary injections are made in the same manner as the original ones.

This method has been used by J. M. Roberts, of New York (October 14-17, 1885 — *New York Medical Record*, October 24, 1885), to excise the elbow and hip, and for a femoral supra-condyloid osteotomy. By J. R. Conway with the Esmarch bandage, to examine fractures and dislocations. By C. E. Bruce (*Medical Record*, October 24, 1885) for circumcision; and by Wright to remove tumors. Their reported results are extremely favorable. With the exception of the above, I have seen no other record of these uses for cocaine.<sup>1</sup>

My patient was a fairly well-developed, anæmic woman, aged twenty-six, extremely nervous and timid, with chronic arthritis of the left elbow. After being blindfolded, the arm was prepared in the manner just described, and the skin injected with a one per cent. cocaine solution, temperature 100° F., (over an area of which the olecranon was the centre four and a half inches long and from two and a half to three inches in width) at thirty-five separate points. This required nineteen minutes, and 74-100 grains was used, after which the surface appeared as if it had been exposed to a vigorous swarm of hungry mosquitoes. The patient complained of considerable pain from the tourniquet. Pain from the subcutaneous punctures ceased eleven minutes after the first injection.

The anæsthetic area from each puncture varied from one-half to one inch in diameter. The whole area was approximately four inches in length, and from two and one-half to three inches in width. Ten deep injections were now made; amount, 20 m. = 1.5 grain. Pain was felt below a depth of one-quarter to one-half an inch from surface of skin.

The tourniquet was then applied 4 to 5 cm. above upper border of the anæsthetic area thirty minutes after the first injection, and the operation begun. The primary incision, 10 cm. in length, which divided the tissues to the bone, caused no pain, but the attempt to elevate the periosteum from the edges of the wound made the patient wince and cry out.

Nine subperiosteal injections were now made of a four per cent. solution = 17 m. = .68 grains, requiring five minutes. This rendered it possible to continue the operation till the condyles were reached. Then the complaints of pain were renewed, and as I did not care to exceed the amount of cocaine already injected = 1.62 grains, the attempt was abandoned and the operation completed under ether. It would probably have required over two grains, an amount which, in one of Wright's cases, caused such collapse that considerable difficulty was found in resuscitating the patient.

The tourniquet was removed, wound dressed, and the patient sent to the ward. Recovery from the ether occurred without any especial symptoms, except marked nausea and vomiting. At one-and-a-quarter hours after, however, the patient suddenly became unconscious, the pulse weak and rapid, respiration shallow and slow; face pale, pupils dilated; muscles relaxed, except those of inferior maxilla, which were in a state of clonic spasm.

Patient was given a subcutaneous injection of brandy and nitrite of amyl by inhalation. Resuscitation followed without difficulty, improvement of objective symptoms preceding the return of consciousness. The nausea and vomiting disappeared gradually at the end of twenty-four hours, since which time the patient has steadily improved.

The pain following the operation was apparently less than usual, and the local disturbance from the multiple injections apparently did not interfere with the process of repair at the seat of operation.

It is obviously impossible to justly criticise a method from such limited experience as one case furnishes, however carefully observed, but the results obtained seem to indicate that the method has only a limited application and value.

It seems unsafe to use a drug whose internal dose it still undetermined in such amounts as would appar-

<sup>1</sup> Dr. Varick, *New York Medical Journal*, February 20, 1886. Details of amputation of thigh, where ether had caused alarming symptoms; apparently successful.

ently be required to anesthetize areas large enough for capital operations.

It is ineffectual in operations upon osseous structures, since these, as far as I know, are uninfluenced by cocaine in any available means of application. The discomfort of the tourniquet is an important factor, as any one can readily convince himself; and there seems also an uncertainty of affecting the deeper tissues uniformly, although the surface may be perfectly anesthetized.

It increases the time of operating, necessitates additional apparatus, if performed in the manner described by Dr. Corning, and although local pain is absent, an extra strain is imposed on a nervous patient through the mental excitement caused by the strange sights of an operating theatre, and anxiety for one's personal safety, which the unconsciousness from ether prevents. Power of motion also, though at times of great assistance to an operator, will often cause great inconvenience if governed by a patient's volition.

It is, however, of value as a substitute when ether is for any reason contra-indicated, or for operations involving soft parts in limited areas so situated that strangulation of the venous circulation is possible.

The following is a summary of the injections, showing the strength of the solution and the amounts used:

1% solution.	36 injections.	19 minutes.	74-100 gr.	.74
1% "	10 " (deep)	11 "	20 m.	.20
4% "	9 " sub-periost.	5 "	17 m.	.58
	54	36		1.62

In conclusion, I wish to acknowledge my indebtedness to Dr. H. L. Burrell for the opportunity of testing this method.

#### A CASE OF PUERPERAL SEPTICÆMIA, FOLLOWED BY HÆMORRHAGIC CASTS OF THE UTERUS.<sup>1</sup>

BY EDWARD J. FORSTER, M.D.

MRS. A., American, has been three times pregnant. The first pregnancy terminated at the third month. The second at term, the only complication being a slight tear of the perineum for which two stitches were taken; these, unfortunately, sloughed out. Lactation was followed by symptoms of nervous exhaustion, which not yielding to iron and tonics, an examination was made, and, besides the laceration of the perineum, one of the cervix found, the edges rolling out, with the usual accompanying endometritis. An operation was advised and agreed to, but before it could be done, she found herself for the third time pregnant. This pregnancy terminated at term, a male child, nine and a half pounds, O. L. A., cord once around body, large amount liquid amnii.

The nurse, who had been with patient in previous confinement, was directed to wash the external genitals with phenyle solution, and to give daily a vaginal douche of the same. The temperature and pulse remained normal until the sixth day, when a chill occurred, followed by temperature 105°, falling one degree after a vaginal douche of phenyle solution. On the seventh day, the morning temperature was 103°; tenderness over uterus; an interuterine injection was given, and again on the eighth day. A vaginal examination on the tenth day showed a membrane on the sides of the lacerated cervix and on posterior wall of the vagina. After thoroughly wiping off the membrane, a douche of corrosive sublimate, 1 to

2000, was given, and the parts dusted with iodoform. The parts were douched again towards evening, and sulphate of iron and glycerine applied to the cervix. The next morning the temperature was 101°. This treatment with poultices to abdomen was continued until fifteenth day, when the temperature was slightly above 99°. The vagina was daily douched with 1 to 2000 corrosive sublimate solution. Food concentrated or predigested. Champagne, etc., were given.

Owing to my temporary illness, Dr. B. saw the case for the next three days, and found at his first morning visit a temperature of 103½°, the same at night, reaching 104° the two evenings following. At his suggestion and with my concurrence, Dr. W. L. Richardson was called in consultation, who advised the use of uterine iodoform suppositories. About five grains were so given, and this treatment I continued for three days.

Dr. D. took charge of the patient for the next five days, during which time the temperature fluctuated from 99° to 102°. The vaginal douche was continued, the membrane wiped off, and iodoform applied daily. On the twenty-eighth day, the temperature was 100°, and gradually rose to 104° on the thirty-first. During the night the patient vomited, and had a very slight show of blood. At my morning visit, the temperature had dropped to 99½°, and I was told by the nurse that probably the douche might be omitted, as the monthly period had arrived.

Examination showed this not to be the case, but a small clot was removed from the os. On the thirty-fourth day, a clot was removed from the uterus by slight pressure with the end of the speculum. It was about six inches long, and a perfect mould of the uterine cavity. Similar clots were removed from the vagina on the thirty-sixth and thirty-seventh days, and again on the thirty-eighth, but the clot was much smaller; this was the last.

The next day the cervix, for the first time, was found entirely free from membrane. The douching was now discontinued. On the forty-fifth day, induration was plainly felt at the right side of the uterus, the mass appeared about the size of an orange. I supposed we should have a pelvic abscess to treat, but the continued use of the hot douche twice daily caused the tumor to disappear, and finally, on the fifty-sixth day after delivery, the fiftieth after the chill, the temperature was normal.

Iron, strychnia, quinia, and digitalis were given at different times and in different doses during the progress of the case. Ergot was given when the clots first appeared. Hot fomentations or poultices were almost continuously applied to the abdomen, and gave much relief. I have purposely omitted many of the details.

The principal points of interest seem to me to be: The persistency with which membrane, or something which I mistook for such, reappeared, the last seen being thirty-five days after it was first noticed. The formation and passage of the clots at a time when it seemed that they could not be attributed either to the recent confinement or to menstruation.

I think that the cause of the septic poisoning was due to the neglect of the nurse to properly wash the genitals or to give any vaginal douche, as ordered. After the chill, the nurse was alarmed, and gave a douche; this I learned late in the case. An examination of the drains, etc., showed no source of contagion.

<sup>1</sup> Read before the Obstetrical Society of Boston, November 13, 1886.

### Clinical Memoranda.

#### CAUTERIZATION BY NITRATE OF SILVER, TO RELIEVE PERSISTENT RETENTION OF URINE, DUE TO ENLARGED PROSTATE.

BY DAVID G. HALL, M.D.,

Second Assistant Physician to the Northampton Lunatic Hospital.

So little attention has been given to operations upon the prostate gland, that it has become the almost universal custom for surgeons, in cases of retention of urine, due to enlargement of the third lobe of that organ, to employ only palliative measures, and dismiss the case without affording any permanent relief.

In this way, it seems to me, many lives are sacrificed which might be saved or at least prolonged, by the employment of some mild, and at the same time, radical mode of treatment.

Mr. F. Swinford Edwards, in his excellent article on Prostatectomy,<sup>1</sup> refers to "three operations" which may be employed "to relieve retention of urine, from obstruction at the neck of the bladder, whether prostatic or valvular."

1. Excision through a perineal incision.
2. Thermo-electric prostatotomy.
3. Mercier's operation or prostatectomy.

Not daring to attempt any one of these, and yet firm in the belief that the same object could be accomplished by less severe measures; I determined to try, in the following case, the repeated application of nitrate of silver, which, so far as I have been able to ascertain, has never before been employed for this purpose, and I was not a little surprised to receive such gratifying results.

J. W., farmer, native of Germany, was admitted to the Northampton Lunatic Hospital in April, 1880, suffering from chronic mania. The records show nothing of especial interest, until September, 1885, when one of his excitements occurred, during which he insisted upon going without food and sleeping on the bare floor.

One morning he was found to have retention of urine, and examination per rectum, showed a marked enlargement of the prostate. The usual course of treatment, to reduce the inflammation, was followed; but almost complete retention continued for nearly five months. He then began to have hysterical attacks, when an enormous amount of pale urine would be secreted, requiring the frequent use of the catheter, and causing him no little inconvenience.

The first of these occurred during the night, and although an attendant was within easy calling distance, he made no attempt to arouse him.

Distension of the bladder and acute nephritis followed. After this condition of things had been twice repeated, it became evident, that unless some more permanent relief could be afforded, his strength would soon become exhausted.

Among some old discarded instruments, which had formerly been used in the hospital, was one for applying astringents to the urethra, in cases of spermatorrhoea. It was about the size of an ordinary silver catheter, with an opening at the end, from which could be protruded, for about three-fourths of an inch, a female blade, and this being attached to a spiral wire, concealed in the male, could easily be rotated throughout the whole, or any part of a circle. On one

side of the extension, or female blade, was a slot about half an inch in length, evidently designed for holding some semi-solid material, to be applied directly to the affected part. Into this I poured a quantity of melted nitrate of silver, and when cold shaved it down to the size required, that it might be concealed during introduction. The instrument was passed into the bladder when it contained a considerable quantity of urine and withdrawn a short distance. To have the bladder partially filled was thought to be a necessary precaution, to lessen the liability of injury to the parts, in case any portion of the caustic should become detached. The caustic was then exposed by pushing on the ring. After allowing it to remain on the surface of the prostate a few seconds, it was rotated several times, then concealed in the male blade, and the instrument removed. A hard-rubber catheter, well warmed, was fastened in the bladder for a few hours. The cauterization caused but very little pain, and the slight tenderness about the perineum, lasted only a few days. The urine was drawn with a soft-rubber catheter as often as required, and the bladder washed, morning and night, with a three per cent. solution of glycerine and warm water. After five days the operation was repeated.

This time I neglected to fasten a catheter in the bladder, and although less than an hour elapsed before an attempt was made to remove the urine, the instrument was passed with considerable difficulty. Two more operations, making four in all, were performed at intervals of about five days, each one being followed by a marked increase in the size of the stream of urine. It was then found that micturition could be freely accomplished, and there being only a residuum of about an ounce and a half of urine, further interference was considered unnecessary. Six months have now elapsed, and there have been no troublesome symptoms whatever. The bladder has been frequently emptied and washed with a three per cent. solution of glycerine and warm water.

#### A CURIOUS CAUSE OF DEAFNESS.

BY DAVID COGIN, M.D., SALEM, MASS.

DECEMBER 31st, 1885, Mr. X., a slightly-built, American, of about thirty-five years, came to the narrator with the following story: Three weeks before, he received a fist-blow on his neck, beneath the right ear, which rendered him insensible. His adversary was an unusually large and muscular man.

On recovering consciousness, he found he could not hear with his left ear. There had been great impairment in the hearing of the right ear, with an occasional discharge, for several years. He stoutly affirmed that he had always heard well with the left ear, previous to the alteration in which he was assaulted. The right drum membrane presented a small perforation in the inferior, posterior quadrant. No secretion. Watch heard at ten centimetres. The left drum seemed to be quite normal. Tube pervious. Tuning-fork heard in right ear only.

As malingering is always to be looked for in such cases, the writer's "stethoscope-test" for simulated one-sided deafness, was employed, but it only confirmed the patient's statement, that he was absolutely deaf in the left ear.

<sup>1</sup> Lancet, July 11, 1885, p. 87.

Neither vertigo nor pain had at any time been complained of.

Eight months later there had not been any change, save that the hearing was less acute in the right ear, owing to a recent catarrh.

Now, if, as seems probable, the hearing was good in the left ear prior to the blow, what caused its complete abolition?

Is not this a reasonable hypothesis, the *contre-coup* may have caused a total rupture of the *portio mollis*, thus producing deafness, while the firmer *portio dura* was not injured, of which, indeed, there had not been any symptoms.

The writer regrets that he has not been able to try the effects of a blow on a cadaver, which might have helped to settle this somewhat important question.

### Reports of Societies.

#### SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

S. J. MIXTER, M.D., SECRETARY.

MAY 5, 1886. DR. GEORGE W. GAY presiding.

DR. O. K. NEWELL read a paper on

#### INTESTINAL SUTURE.<sup>1</sup>

In reply to Dr. Chadwick, the reader said that the stitches should be two to three mm. apart.

DR. CHADWICK spoke of the difficulty that he had experienced in introducing the sutures properly in the living subject, as it is difficult to be sure that the needle is through only the serous and muscular coat. The intestine is also very slippery, and the coats slide upon each other, still further increasing the difficulty of manipulation.

DR. GAY also spoke of the difficulty arising from thinning and stretching the bowel, owing to paralysis of its muscular coat.

DR. MIXTER spoke of the anatomy of the blood-supply of the intestine, and referred to observations of German surgeons, showing that if the intestine is separated from the mesentery for too great an extent, sloughing occurs. Hence, as much intestine should be excised as corresponds to the mesentery detached. Dr. Mixter also referred to the value of one or two provisional sutures in the abdominal wound, so placed that the intestine being operated upon is shut off from the abdominal cavity.

In answer to Dr. Gay, DR. NEWELL said that there was no reason for interrupting the continuous suture at two or more points, as it is not shown that it causes any stricture of the bowel. Dr. Newell showed pieces of human intestine, illustrating the methods of applying the various forms of suture, and also a dog, just killed, whose intestine had been resected and sutured in two places two months previously. The union in both places was perfect.

DR. H. W. CUSHING showed several animals on which various forms of intestinal suture had been performed, and gave a report of his results.

#### EXCISION OF THE ELBOW FOR INJURY.

DR. JOHN HOMANS showed a patient whose elbow-joint he had excised nearly three years before without

removing the condyles of the humerus. The operation was performed at the Massachusetts General Hospital, July 5, 1883. The patient, a railroad laborer, aged twenty-seven, had been struck by a train of cars, and had received a compound fracture of the left elbow, with extensive comminution of the radius and ulna, and severe crushing of the soft parts in the neighborhood. Two and a half inches of the radius and ulna were removed, and the rough ends of the fractured bones sawn off smoothly. All the periosteum was carefully preserved. The operation was performed under the carbolic spray, with all antiseptic precautions. The patient was discharged from the hospital October 13th, having at that time very good motion, but not much power to use the arm. Early in the following April, he resumed his work in a mill, where he was obliged to carry heavy bundles of wool, and he soon found that he could use his left arm about as well as he ever could, and for the same purposes, except that he could not put up a heavy weight. He has constantly gained strength, and now has a perfectly useful arm.

DR. H. W. CUSHING reported a case of

#### EXCISION OF ELBOW: LOCAL ANÆSTHESIA BY COCAINE.<sup>2</sup>

DR. J. W. ELLIOT showed a pair of ovaries that he had removed by laparotomy, together with the tubes. Before the operation the ovaries had been found much enlarged, prolapsed, and very tender. The patient had suffered from neurasthenia for several years, and had been under the treatment of Dr. James J. Putnam for more than a year. The operation was done as a last resort by the advice of Drs. Putnam and John Homans. The patient made a good recovery.

DR. JOHN W. PERKINS showed a specimen of

#### ANGULAR CURVATURE OF THE SPINE.

The specimen was from a woman about fifty years old, with no history. The diseased vertebra, seven in number, occupied the upper dorsal region. The spines were distinct, the bodies coalesced into one piece, with no trace of inter-vertebral substance left. This piece was about twice the height of the adjacent bodies, and bent so as to form an angle of fifty-four (54°) degrees, about which the cord passed. At this point there was an increase in the peridural fat tissue, especially marked on the outside of the canal, where it formed a thick pad opposite the apex of the body, which projected into the canal. The cord itself showed no pathological changes, nor did the vertebrae, other than those above mentioned, there being no thickening, and no signs of any inflammatory deposit, recent or old.

DR. EDWARD T. WILLIAMS exhibited

#### AN APPARATUS FOR THE TREATMENT OF FRACTURED CLAVICLE.

DR. WILLIAMS said that the chief defect with most forms of clavicle apparatus was that the humerus was not properly fixed. It is not enough, as the books teach, to carry the shoulder *upwards, outwards, and backwards*, for unless the humerus is also immovably secured, a constant motion of the fragments takes place, with resulting deformity and shortening. The apparatus exhibited was simply a new form of bandage for fixing the humerus.

<sup>1</sup> See page 1 of the Journal.

<sup>2</sup> See page 7 of the Journal.

Take a piece of sticking-plaster long enough to go nearly, if not quite, round the chest, and wide enough to reach from the axilla nearly to the elbow. Lay it upon the table, spread-side down, and on it place a piece of cotton or linen cloth cut to the same dimensions. Stitch them together across the middle by two parallel seams, from two to three inches apart. Then tear the cloth in strips, lengthwise, after the fashion of a many-tailed bandage. You have then a broad belt of adhesive plaster, secured back to back to a many-tailed bandage.

The plaster-belt goes round the chest, the tailed bandage is to secure the arm. Adjust the belt in position, taking care to have the space between the seams exactly in the mid-axillary line. Then raise the shoulder and pad the axilla in the usual manner, securing the pad by a figure-of-eight bandage or plaster-strip crossed over the sound shoulder, and down into the sound axilla. Then bring the tails of the bandage around the humerus and pin them, supporting the forearm, as usual, in a sling. The interval between the two seams of the bandage is to give space for the brachial vessels, and to avoid undue constriction of the arm.

#### PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

CHARLES M. GREEN, M.D., SECRETARY.

NOVEMBER 14, 1886, the President, DR. A. D. SINCLAIR, in the chair.

DR. SINCLAIR reported the following case of

#### INDUCTION OF PREMATURE LABOR IN A PRIMIPARA, BY MANUAL DILATATION OF THE VAGINA AND CERVIX UTERI.<sup>1</sup>

On the 12th of October last I was asked by Dr. W. L. Richardson, who was sent for but could not attend, to go to a distant part of the country, to see a primipara in the ninth month of pregnancy, who was reported as being the subject of albuminuria, general edema and blindness. Examination of the urine showed, specific gravity 1022, acid, albumen in large amount, blood and granular casts. After a conference with her medical attendant, a personal examination of the patient, and much subsequent discussion of the case, it was decided to resort to premature delivery for the safety of the woman and child. The patient, twenty-nine years of age, became pregnant in January. The progress of gestation was not remarkable until July, when she became generally oedematous. From that time until that of my visit this state of things continued, with persistent albuminuria and casts. The amount of albumen varied under treatment from three to seven per cent. On the 8th of October she became blind. It may have some significance, that on that day the urine contained but about one per cent. of albumen. The amount of urine passed was never scanty. Ophthalmoscopic examination of the eyes reported retinal disorder characteristic of the renal disease. Everything was being done to ameliorate the patient's condition, and to carry her

over to the estimated term of natural delivery; but the blindness, the edema, and the bad state of the kidneys remained. The patient, a refined and educated lady, was aware of the gravity of her condition and correspondingly affected. It was calculated that she might yet have seventeen to twenty days before the natural term of pregnancy would be completed. Would it have been wise to incur the risk of delay in the presence of this alarming state of things?

In view of contingencies, it was decided by the three attending physicians, and concurred in by myself, that delay might at any moment, by further complications, become fatal to mother and child; and in order to avert threatened calamity the patient was etherized and delivered, by manual dilatation of the vagina and cervix uteri, in three-quarters of an hour's time, of a living child, turned and extracted by the feet. Not a fibre of the mother's tissues was torn in the process of delivery. The placenta was taken from the uterus, which contracted firmly. The vagina was douché with a solution of corrosive sublimate (1 to 2000) and the patient made comfortable in bed. In coming out of the ether she was restless and nervous, and her physician, who remained with her during the night, gave a subcutaneous injection of morphia which relieved her. She appeared better before leaving, the morning following.

November 3d. By report: eye-sight returning gradually, no edema, passes sixty to seventy-five ounces urine daily, one per cent. albumen, no casts, no blood, no pus. Took a short carriage drive on the twentieth day after delivery. General health improved; sleeps, eats, and digests well. Child thriving on artificial diet.

DR. B. CUSHING, present by invitation, had seen a similar case thirty years ago, in which there was total blindness; but the woman went to term, and both mother and child did well. He asked the reader if it would not have been better to leave his case to nature.

DR. SINCLAIR thought it would not have seemed so to any one who saw the case.

DR. LYMAN believed in terminating such cases prematurely, and thought statistics demonstrated better results from immediate delivery than from the choice of an expectant method. If the case were left to nature, he would fear disastrous effects on the eye-sight.

DR. RICHARDSON thought it safer to induce labor for the sake of the kidneys. When the kidney symptoms are of sudden onset, even if the urine discloses a grave state of affairs, the kidney will usually clear up after delivery; but when the invasion has been gradual, and marked symptoms have developed, there was great danger of permanent injury to the kidney, if the case were not terminated promptly. He believed that albuminuric retinitis was generally recovered from.

DR. W. P. BOLLES, a guest, reported, by invitation, the following

#### CASE OF BRONCHORRHEA COMPLICATING LABOR.

Mrs. I. P. H., a primipara about twenty-five years of age, engaged me early to attend her. Up to the beginning of the eighth month, she reported herself as perfectly well; she had had but little nausea, did her own work, and was out a good deal besides. Naturally plump and of a phlegmatic temperament, she had grown more fat and heavy since her marriage. Two months or so before delivery, I was called one night

<sup>1</sup> As a contribution to the scanty literature of this subject I have brought forward my last experience on its use. At our last meeting when the subject of manual dilatation was discussed, I said that the subject was still *sub judice*, and that Barnes' bags had still the field. I agree with what was then said by Dr. Green, and think that Barnes' dilators may be combined or alternated with the hand in exceptional cases of hardness of the cervix uteri, the dilatation to be finished by the hand. I pursued this plan once in 1874, using Molesworth's dilators and finishing dilatation with the hand.

to see her, on account of a dizzy or faint spell, from which she had recovered before my arrival; and a few times after this she had several rather slight dizzy attacks: for a week or two she was pale. From these attacks she gradually recovered, and at the time of her confinement she was feeling well and strong.

At the beginning of the attendance above mentioned, a sample of urine of very light color had a specific gravity of just 1000 by my urinometer, which has an error of about four parts at that point, making the true specific gravity, say 1004. Next day it was measured and amounted to three quarts, with a specific weight of 1009 (corrected); no casts or other abnormality save dilution. At further intervals of one or two weeks it was repeatedly examined, always being in the neighborhood of 1010, and measuring about three quarts. So after searching in vain for other symptoms of trouble, the dizzy spells having passed off, I attributed it to simple polydipsia, which was her habit, and gave it no further attention.

The labor presented no peculiarities at its beginning, but was slow in consequence of the size of the child and the fatness of the patient, and was finally terminated by forceps, for which the patient was etherized. She did not take kindly to the ether; complained much of its choking her, and even when half under it in the middle of a hard pain would thrust the sponge away as if the suffocation of the ether was worse than the labor. Suddenly, when fully under its influence, she became livid, the tongue protruded, and respiration ceased: with a little shaking and air she was made to breathe again, and the labor was terminated. She remained however quite blue for several hours, and even on the next day had hardly recovered her color: the respiration, which until then had not been remarkable, after the spell of asphyxia was very hurried and remained as high as forty or fifty per minute for a number of days. The pulse was also much accelerated.

On the second day she had a sharp chill and moderate fever ( $101^{\circ}$  or  $102^{\circ}$ ), and the lower lobe of the left lung (which had not been listened to before) was dull and full of fine mucous râles; respiration not distinctly bronchial, but obscured by the râles. On the third day she was a little better, with about the same physical signs, when I left her in Dr. C. E. Stedman's hands, and she made a quick and complete recovery.

At the time of the asphyxia the mouth and trachea filled with liquid, and the aspect was very much like that of an instance of fatal bronchorrhœa that I once saw in a child as the result of etherization; but the flow continued for only a few minutes before it nearly disappeared, although gurgling and moist respiration were present for hours. The chills and the signs in the left lung on the following day seem to me to indicate a congestion of the lobe affected, brought on by the presence of so unusual an amount of fluid in the bronchi, and happily terminating in quick resolution, instead of solidification.

Dr. CUSHING spoke of a patient who passed through her first and second labor without trouble; but in her third labor the use of ether was followed by bronchorrhœa, and he feared she would die; but she recovered. This was his only experience of the kind.

Dr. LYMAN said that in a case of eclampsia, having given ether without effect, he gave pilocarpine: profuse bronchorrhœa followed, which he had always supposed was due to the pilocarpine; but perhaps it was attributable to the ether.

#### EXAMINATION OF THE URINE DURING PREGNANCY.

Dr. REYNOLDS raised the following questions: Should the urine be examined frequently during pregnancy, when there are no rational symptoms of kidney affection? Is a physician to blame, if he does not? Is he fussy, if he does? His own practice was to make frequent examinations of the urine.

Dr. BOARDMAN said: Suppose the patient is found to be albuminuric, but without renal symptoms, what should be done about it?

Dr. REYNOLDS in reply said that such a patient should be closely watched: she may not probably be eclamptic; but the condition of the bowels, the appetite, and the habits of sleep should be looked after, and the patient brought into good condition.

Dr. FORSTER reported

#### A CASE OF PUERPERAL DYPHThERIA, FOLLOWED BY HÆMORRHAGIC CASTS OF THE UTERUS.<sup>2</sup>

Discussion on this communication was deferred.

#### NEW YORK NEUROLOGICAL SOCIETY.

STATED meeting, December 7, 1886.

C. L. DANA, M.D., President, in the chair.

#### A CASE OF PROGRESSIVE MUSCULAR ATROPHY, WITH BULBAR SYMPTOMS.

Dr. W. R. BIRDSALL presented the patient, and read the history of a case of progressive muscular atrophy with bulbar symptoms, the atrophy limited to the left upper extremity, the abductor indicis of the right hand and the tongue, the latter affected bilaterally, predominantly on the left side. He presented the case as illustrating the non-conformity of disease to our arbitrary standards of classification and description of types of disease.

The patient showed peculiarities due to the pathological process having advanced to an extreme degree in certain regions, while its distribution had remained limited, not involving neighboring parts usually affected, the left upper extremity and tongue being the parts involved, and to a marked degree, while the right upper extremity was normal excepting the abductor indicis; the trunk and lower extremities remained healthy. A detailed history of the case was given, the patient being a carpenter, a Swede, aged thirty-nine, married, of temperate habits, without a history of syphilis or other disease. A chart was presented, showing the electrical reactions.

Dr. E. C. SQUIN had seen very few examples of unilateral progressive muscular atrophy. He had at present one patient under observation in whom the muscular atrophy was limited to one side, presenting the electrical and other characters of progressive muscular atrophy.

Dr. W. M. LESZYNSKY had a girl aged seventeen under observation, in whom the atrophy was unilateral, affecting only the supraspinatus, deltoid, and a portion of the trapezius.

#### SELF-ABUSE IN ITS RELATION TO INSANITY.

Dr. E. C. SPITZKA, the author of the paper, after citing the views of the classical writers, stated that the question of the existence of a special form of insanity

<sup>2</sup> See page 8 of the Journal.

due to self-abuse and to nothing else, was complicated by the existence of another well-demarcated affection known as the insanity of pubescence. The mental diseases due to self-abuse usually occurred at the same period of life as the latter disorder. This fact explained the similarity of many clinical features between them. The question was further complicated by the fact that hebephreniacs sufferers from pubescent insanity are often addicted to self-abuse, and that thus the features of one disorder may be engrafted upon the other.

The continental authorities do not recognize a special form of masturbational insanity in their tables. Schüle, it is true, speaks of *onanistic insanity* in the sense in which Maudsley uses that term, but he assigns no part to it in his classification, and disposes of it in a few lines. Kraft-Ebing recognizes the vice as an etiological factor, and speaks of such and such forms of insanity on a masturbational basis. He, as well as Schüle, with the majority of recent German writers, follows Ellinger in attributing to the *masturbatory neurosis* a relation to the development of insanity analogous to heredity and other admitted predisposing and determining factors.

I have yet to find any dissent expressed by these authorities from the position taken by Emminghaus, who claims that, owing to its causal relationship to widely differing forms of insanity, it is not proper to speak, as Skae does, of a special form due to masturbation. This critical remark would seem to be supported not only by the clinical facts accessible to every observer, but also by the confusion existing among those writers who have attempted to define and demarcate such an affection. Skae speaks of a peculiar imbecility and shy habits as characterizing the disorder among the youthful, and suspicion and fear, and scared looks, palpitation and feeble bodies as found in older victims, who gradually pass into dementia.

The most distinguished follower of Skae attributes the following symptoms to that form of insanity of which masturbation is the chief cause and "the chief symptom present," giving "the whole case distinct features": Exaggerated self-feeling, concealed shallow introspection, frothy emotional religious notions, and a restless, unsettled state, with foolish hatchings of philanthropic schemes. Luther Bell, who, with Isaac Ray, was among the earliest to attribute special symptoms to insanity caused by masturbation, furnishes a very faithful picture of certain cases, whose particular feature he describes as being a tendency to dementia, a loss of self-respect, a sulky, mischievous, and dangerous disposition, and a subjectively irritable and depressed state of mind. Griesinger, who does not recognize a special form, and denies specific characters, admits that the majority of cases are marked by a profound dulness of sentiment and mental exhaustion, by religious delusions and hallucinations of hearing, and a rapid transition to dementia in the event of incurability, which latter is the usual issue.

The effect of masturbation on the mind and nervous system varies according to the age at which it is commenced. Like other agents which are injurious to the developing brain, such as epilepsy, alcohol and syphilis, its effect is most rapid and serious in the young or children, less so in adolescents, and least marked in adults, unless protracted. For very young infants it causes a profound deterioration, manifesting itself in convulsive, choreic disorder, and imbecility. In those who masturbate between the fifth and tenth years, the

effects seem to be manifested chiefly in arrested brain nutrition. Spontaneity of thought and action is absent with such children; they do not play as their comrades do.

There are a number of other circumstances which modify the development of mental disturbance in masturbators. The age between twenty and thirty-five is pre-eminently the period of somatic introspection. It is at this period, if at any, that the average man begins to think about his bodily condition. In these years men weigh themselves, discover that they have too much or too little flesh, develop slight gastric or intestinal disorders, reflex nervous symptoms, or indulge to excess in tobacco, in baccho, and in venere, and consequently are on the *qui vive* for the occurrence of cardiac, renal, or venereal disease, or of sexual disability. It is at this period that the results of masturbation are most deeply felt by a large proportion of the victims of that habit. The prevalent tendency of his age and of his associates of the same age, carries him into a veritable nosomania. Perhaps also, he attempts, under lay or medical advice, to accomplish coitus, and fails. It is for this reason that we find the larger portion of cases of insanity due to masturbation developing between the twenty-fifth and thirty-fifth year, classified as "hypochondriacal paranoia."

A number of typical histories were then related, from which the author drew the following conclusions:

1. Self-abuse is an etiological factor in a large number of cases of insanity, but only those cases should be designated as insanity of masturbation in which the connection between the excesses and the symptoms is direct.
2. Self-abuse, to produce insanity, must have been carried very far, or the subject must be predisposed. Often onanism can be traced in other members of the family, and very often it is found that the maternal ancestry is a weak one.
3. Mania, melancholia, and epilepsy occasionally occur in young masturbators, the former two usually having a favorable prognosis.
4. Stuporous insanity and katatonia are both common, and the former presents good prospects.
5. The forms thus far mentioned when occurring in masturbators present no essential difference from the typical psychoses. They should therefore be designated as mania, melancholia, stupor, etc., from masturbation, and not as masturbational insanity.
6. There is a chronic delusional insanity in grown persons who have been devotees of self-abuse, and it is usually a hypochondriacal *paranoia*. Clinically it is very like typical paranoia, and etiologically it is not the direct result of self-abuse, but rather of an intermediate neurosis. A cerebro-spinal irritation which is due to self-abuse.
7. Finally, there is a form of insanity developing about or after the period of puberty which does merit the name "Masturbational insanity." It is chronic, has a tendency to aggravated dementia, is characterized in its early period by anxiety, timidity, suspicion, fear, and a cowardly, mean disposition. Later there are confusion, meddlesome aggressive behavior, vague delusions, loss of memory, and finally deterioration. After these are observed spells of fury or destructive-ness. This form is never due to any other cause, and resembles no other form of insanity than the one already alluded to.

8. It is not always possible to differentiate between the insanity of pubescence and the form described. But where the former disorder is uncomplicated by the latter, it may be known by a history of peculiarities in infancy and childhood, by the greater constancy of the mental state which in onanists is exceedingly variable. Hebephreniacs are more apt to be expansive in their notions, more inclined to favor projects of a chimerical character. In other words, insanity of pubescence is the paranoia of adolescence, and masturbational insanity the presenile dementia of the same period of life.

DR. RALPH L. PARSONS made some remarks with reference to the treatment. The diet should be principally vegetables and milk, with little meat and stimulating condiments. As the patient sought solitude, he should be thrown as much as possible with others, not alone of his own sex, but also of the opposite sex. He should be kept occupied, and manual labor of some form, like farming, was best. He knew of no special benefit to be derived from medicinal treatment as with the bromides, or with the application of irritating substances to the penis. Cutting off the prepuce might be of advantage in some cases. The patient should be closely watched day and night, mechanical appliances might sometimes be necessary, moral influence could be depended upon to a certain extent.

DR. KELLOGG agreed with the author in the conclusions arrived at in the main. But he should like to know Dr. Spitzka's views as to the relative importance of artificial sexual indulgence and indulgence in the natural manner as factors in the production of insanity. Masturbation was a wide term, and ought to be defined. The effects in some cases were more observable in spinal lesions, in others in cerebral lesions. He believed that masturbation itself was not capable of producing insanity in a person of sound heritage. He was convinced that it was capable of suspending mental growth and producing forms of imbecility in those of sound parentage. He knew it could produce insanity at the time of pubescence, and there were persons of mature age who had a predisposition to insanity in whom the attack was excited directly by sexual excess. Occasionally persons indulged to excess for a year or two only, as did sailors sometimes when on long voyages. Masturbation was also capable of producing insanity in old persons who were on the decline; it hastened dementia. He did not think there was a peculiar set of symptoms; the age of the patient, his education, his heritage, his whole mental make-up influenced the symptoms more than the exciting cause. He did not believe it possible to separate masturbation from other forms of sexual excess, and the title "sexual-abuse" would have been more appropriate because more comprehensive than self-abuse.

DR. NOTES said the case referred to by the author as having been cured, was the only one in the Bloomington Asylum in which a cure had been effected, and he attributed recovery in that case to transferring the patient to a farm, where his whole mode of life, including diet, was changed, and for the better.

DR. L. C. GRAY thought the author had given an accurate description of the mental disturbances often seen associated with the habit of masturbation, but he asked if he did not also find similar mental disturbances in individuals who were not masturbators.

DR. SPITZKA replied that in individual cases he had, but not in groups of cases as occurred in masturbators.

DR. GRAY had seen the mental disturbances described in patients addicted to masturbation, but he had been unable to decide as to what extent masturbation could be considered as a cause or simply an associated habit. He had two cases in mind in which that group of symptoms were followed in the course of a few weeks by masturbation in individuals who had not previously been addicted to self-abuse. He had seen the same symptoms follow excessive sexual intercourse. He had in some cases noticed very exaggerated and extensive cremaster reflex.

In closing the discussion, Dr. Spitzka said that there were undoubtedly some forms of sexual vice which were physically as injurious as onanism, but he had not seen a sufficient number of cases to enable him to say anything about their mental sequelae, unless he cared to risk being premature. He had known epilepsy and stupor to follow natural sexual excess in a young person, and parietic dementia in more than one cunnilinguist and sodomist. The form he had sketched was, as far as his experience went, only found in masturbators. While he admitted with Dr. Kellogg that the single act of onanism was physically not a formal thing, and not much, if anything, different from normal coitus; there were two respects in which the onanist and libertine differed most widely, one was a moral, the other a physical, feature. The onanist practices a secret crime, the social and gregarious element is excluded. Knowing that his act is despised, he becomes inclined to suspicion and fear of discovery. A libertine cannot exceed beyond a certain limit. Coitus requires a certain condition of the organs which implies the existence of certain normal energies. When these fail the limit is set to further excess. With the onanist it is much different. There are masturbators who require no erection; yea, who succeed in their injurious act without any manipulation. The consequence is that they pass far beyond the limit set by nature to natural excess, and no calculation can be made of the damage done.

Dr. Parsons's dietary propositions were endorsed by the highest authority. Individually, the speaker was not decided in his own mind whether a highly nutritious diet would prove injurious in certain phases.

#### TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

REGULAR Meeting, Friday, November 19th, 1886. The PRESIDENT, CHARLES WARRINGTON EARL, M. D., in the chair.

DR. W. W. JAGGARD read a paper entitled,

A CASE OF CHRONIC INVERSION OF THE UTERUS, OF TWENTY-ONE MONTHS STANDING, REDUCED BY COLPEURYYSIS.

*History.* E. S., thirty-six years old, German; married at the age of twenty-two years; seven children, no miscarriages. Her first six confinements were normal. She was in the habit, common among German peasant women, of rising upon the third day and of making up her own bed. In each of her labors she was attended by a midwife.

Her seventh confinement occurred in October, 1884.

According to the statement of the patient and the attendant midwife, the delivery of the child was normal. The placenta was removed, as in the six former labors, by traction on the cord. During the labor and the *puerperium*, no unusual loss of blood was observed, and the patient does not remember any extraordinary sensations of pain or faintness. The midwife consulted a physician on the second day of the lying-in period, with reference to the sudden development of high bodily temperature. On the same day, a well-known obstetrician saw the case. He made the diagnosis of puerperal fever, instituted the usual plan of treatment, but declined further connection with the case, as he feared the infection of his regular puerperal patients, of whom he had a large number. No examination of the uterus, either by abdominal palpation or vaginal exploration, was made. On the third day an equally competent practitioner inspected the patient, confirmed the diagnosis of puerperal fever, and gave directions with reference to treatment. The contour of the uterus was not investigated either through the abdominal parietes or by the vagina. He continued to visit the patient for eight days, when he pronounced her convalescent.

At the expiration of three weeks the woman rose from her bed for the first time, when she observed a fleshy tumor protruding from the vulva. Seven weeks after delivery she resumed her work as a washer-woman. She suckled her child fourteen months. During this period, painful coitus and the sensation of the presence of a foreign body within the vagina were the only symptoms which attracted her attention to her condition. She noticed no fluor, no hemorrhage, and felt no pain except during coitus. The sexual act was not attended by any perceptible loss of blood. On account of the two symptoms mentioned she sought medical advice. The fleshy mass, situated entirely within the vagina, was supported by a large sponge.

The child was weaned in December, 1885. About March 17th, 1886, she experienced severe metrorrhagia, entirely without pain, and lasting six days. She supposed menstruation had been re-established, and gave the subject no further thought. About April 15th, another severe hemorrhage occurred, painless and lasting one week. On May 28th, she came under the writer's observation, and was admitted into the wards of Mercy Hospital. She sought relief, as she very distinctly expressed it, on account of painful coitus, the sensation of the presence of a foreign body within the vagina, and the excessive loss of blood during her last two menstrual periods. The woman was of medium size and height, with well-developed muscles and clavicles like a man's. She presented evidence of marked anemia.

**Diagnosis.** Bimanual palpation revealed a pyriform tumor, the size of a hen's egg, protruding through the *os uteri*. The base of the tumor rested upon the pelvic floor, and upon coughing or straining appeared at the genital fissure. A shallow sulcus between the pedicle of the tumor and the walls of the cervical canal extending around the left semi-circumference of the canal, could be felt by the finger and traced with the sound. On the right side, no sulcus could be detected, and the membrane covering the tumor was reflected directly upon the external *os*. The long axis of the tumor was deflected to the left of the median line. The *corpus uteri* was absent from the normal position. The tumor, insensitive to pressure,

was covered by a soft, villous membrane, and possessed the consistence of an edematous myoma. The enveloping membrane was of a bluish-red color, presenting some spots of superficial ulceration, and bled upon the slightest touch. Tubal ostia were nowhere visible. Traction of the tumor downwards caused the sulcus on the left side to disappear entirely, an important diagnostic sign of inversion of the uterus, to which Carl Braum, Robert Barnes and Schroeder, in particular, have called attention. Reamy, of Cincinnati, has recently described a sign which might have furnished corroborative evidence at this stage of the diagnosis in the case under consideration. Reamy says that when the tumor, grasped by the fingers within the vagina, can be easily rotated on its vertical axis, it is probably a polyp, since such rotation could not occur to any marked extent in an inverted uterus, stiffened as it is by its muscular walls and the thick, strong, fibrous gray ropes furnished by the broad ligaments.

To make the differential diagnosis between inversion of the uterus and a pedunculated fibroid, positive, the patient was etherized. A sound in the bladder and a finger in the rectum were easily approximated above the tumor. The funnel-shaped cavity at the seat of inversion was easily recognized by the finger in the rectum, and by the hand on the abdomen in bimanual palpation.

No appearances were present that would indicate the invasion of the uterine walls by any new formation.

**Treatment.** The patient was etherized, the contents of the rectum and bladder were evacuated, and the genitalia disinfected. The right hand was passed into the vagina, "and with the fingers and thumb encircling the portion of the body close to the seat of the inversion, the fundus was allowed to rest in the palm of the hand. This portion of the body was firmly grasped and pushed upward, and the fingers were then immediately separated to their utmost; at the same time the other hand was employed over the abdomen in the attempt to roll out the parts forming the ring, by sliding the abdominal parietes over its edge." At the expiration of forty-five minutes, the writer's right hand was almost powerless, and Dr. E. C. Dudley kindly relieved him. Dr. Dudley gave up the attempt at reduction after thirty minutes' trial, fearing perforation of the fundus. Apparently not the slightest progress in the reinversion of the organ had been made. Some hemorrhage occurred as the result of manipulation, although the fundus had been enveloped with absorbent cotton and gauze. The manœuvre was repeated on the following day, under the same conditions, through the same period of time, with no more favorable result.

Emmet's method was then abandoned, for the following reasons. The separation of the fingers to their utmost had no effect whatever in the dilatation of the *os externum*. As pointed out by Fenger, and as brief reflection will convince the most casual observer, mere extension of the fingers can have but little effect in the dilatation of the cervix, owing to the relatively feeble character of the extensor muscles of the forearm. The necessary manipulation of the congested *mucosa*, even when protected by cotton or gauze, caused a loss of blood of moment in an already anemic woman. The uterine musculature had evidently undergone fatty degeneration and there was serious

danger of perforation. Finally, there was reason to entertain fear as to the patient's power to endure the shock from taxis, and the effect of prolonged anaesthesia.

Compression of the body of the uterus opposite to each tubal ostium, between the thumb and forefinger, so as to produce indentation of one side or the other, the Kiwisch-Noeggerath method was equally ineffectual.

On Sunday, May 30th, at the suggestion of Dr. W. H. Byford and Dr. Christian Fenger, the writer began an attempt to effect reinversion by colpeurynter. After the evacuation of the contents of the bladder and rectum, and disinfection of the genital canal, the colpeurynter was introduced while empty, so that it lay on the posterior wall of the vagina and the *fundus uteri* was adjusted so that the long axis of the uterus and the axis of the pelvic inlet were coincident. The bag was then injected with water until it was fully distended. The patient was placed in bed in the dorsal decubitus. The instrument was removed at the expiration of twenty-four hours, and the genital canal disinfected. A suppository containing thirty grains of iodoform was placed in the vaginal *cul de sac*, and the colpeurynter, after being cleansed, was reintroduced. Colpeurynter was continued in the manner indicated without interruption until June 9th. Very gradually the sulcus between the pedicle of the tumor and the neck of the uterus deepened, until on the eleventh day the organ was so far reinverted that the fundus was on the same plane with the *os externum*. During this period gentle efforts at taxis were made daily but without any apparent effect. No perceptible progress was made during the succeeding eight days. June 17th, a serous fluid tinged with blood began to escape from the vagina, and it was thought the patient was about to menstruate. The colpeurynter was accordingly withdrawn. During the nights of June 18th and 21st the patient suffered severe uterine hemorrhages which threatened to prove immediately fatal. Hot vinegar was used as a vaginal douche, but did not prove so efficient a styptic as a hot saturated solution of alum. Menstruation ceased on June 23d. On account of the hemorrhages, it was deemed inexpedient to expose the patient to the fatigue consequent upon any attempt to observe the *mucosa* during menstruation. During the subsequent nine days the writer was indisposed, so that the treatment by colpeurynter was resumed on July 2d. On examination, before replacing the bag, the inversion was found to be as complete and as irreducible as the day on which the treatment began. The uterus was gradually reinverted, as before, until on July 8th, the fundus was on the same plane with the *os externum*. From the 8th until the 15th of July no apparent progress was made in reduction. On the evening of July 16th the writer was very much pleased to find the uterus completely reinverted, and the vaginal portion of the cervix occupying its normal position. The sound passed into the uterus to the extent of three and one-half inches. The *corpus uteri* was felt on bimanual palpation, in a position of slight retroversion, below the promontory of the sacrum. The patient was not aware of any change in her condition. She said, however, that she had felt a sudden, sharp pain in the hypogastric region some four hours prior to the examination. Owing to the patient's enfeebled condition—due in the main part to anemia—she was not permitted to leave her bed until July 18th.

The colpeurynter was in the vagina altogether thirty-three days. On three occasions during this period the bodily temperature rose to 102° F., but invariably fell to the normal after irrigation of the vagina and disinfection of the rubber bag. The presence of the colpeurynter in the vagina did not interfere at all with the functions of urination and defecation. The writer desired to express in words his appreciation of the constant attention devoted to the somewhat tedious plan of treatment, by Dr. Louis E. Lawson, late Resident Physician, Mercy Hospital.

Dr. Alex. J. Stone, of St. Paul, kindly repaired the bilateral laceration of the cervix, on July 20th. The operation was unusually difficult on account of the extent of the tear, and the shortness of the vaginal portion. Dr. Stone's method of operative procedure differs materially from Emmet's, but its description is obviously out of place in the present report. The sutures were removed on August 4th, perfect union having been secured.

The patient, after leaving the hospital, gained rapidly in strength. Menstruation occurred September 26th; the process was painless, lasted four days, and the quantity of blood lost was normal. At the time of writing she had resumed her former occupation.

#### REMARKS.

The case is of particular interest with reference to (1) anatomy, (2) symptoms, and (3) treatment.

(1) *Anatomy.* The uterus was in a state intermediate between the second and third degree of inversion. In the second degree of inversion—the incomplete inversion of Puzos, Levret, Leroux, Donné, the third degree, or perversion of Crosse—the anatomical limit of inversion has been indicated by Baudeloque as the vaginal insertion around the *cervix uteri*. Under these conditions, according to Veit and Freund, the cervical canal is intact, the uterus is only inverted as far as the internal os, and the uterine globe remains within the vagina. In the third degree, the complete inversion of Puzos, Levret, Leroux, the utero-vaginal inversion of Donné, the *corpus uteri* and *cervix uteri* are completely inverted and the anatomical limit, as indicated by Levret, is the vaginal insertion at the vulvar orifice. Under these conditions, the inverted uterus is also prolapsed and protrudes beyond the plane of the genital fissure.

In the case under consideration, the cervical canal was completely inverted on the right side, the cervico-uterine sulcus (Donné) had disappeared, the cervico-vaginal sulcus was shallow. On the left side, the cervico-uterine and cervico-vaginal sulci were perfectly distinct. In consequence of the complete inversion of the right half of the cervix the long axis of the uterine globe was sensibly deflected to the left of the median line. The vaginal portion of the cervix was short, and lacerated on either side to the vaginal junction. The inverted uterus was perfectly mobile, and no trace of inflammatory infiltration could be detected about the pelvic peritoneum or in the connective tissue. The position of the ovaries, tubes and round ligaments could not be mapped out with any degree of certainty.

(2) *Symptoms.* The writer thought it was fair to assume that the inversion of the uterus, in the case under discussion, occurred at the time of delivery. The weight of probable evidence is in favor of this assumption. The inversion must have occurred before

the third week following labor, because at that time the presence of an intra-vaginal tumor was discovered by the patient. This interval of three weeks was spent quietly in bed in the dorsal decubitus. The conditions for inversion would be at no time during this period so favorable as during or at the completion of the third stage of labor. During this period, no cause adequate to the result was in operation. On the other hand, during or at the completion of the third stage of labor, all the causes and conditions known to be necessary to the production of inversion were present, that is, the enlarged and relaxed corpus, dilated cervix, traction on the cord; possibly, also, fundal insertion of the placenta (Hennig), and paralysis of the placental site (Rokitansky). If this assumption be granted, the case demonstrates that inversion of the uterus may "take place without sufficient symptoms to attract attention, or to indicate that anything has gone wrong." Dr. J. C. Reeve has already called attention to this subject, and has sustained the proposition just quoted, by the citation of well-authenticated cases, in his classical essay, "Moot Points in Regard to Inversion of the Uterus."

The patient, a woman of at least average intelligence, and the midwife, a "qualified" practitioner, that is, examined and registered by the State Board of Health of Illinois, observed no symptoms sufficient to attract attention, or to indicate that anything unusual had happened at the time of delivery. A well-known and skilful obstetrician saw the case forty-eight hours after the probable time of the occurrence of the accident, and the absence of symptoms was so marked that the condition escaped his critical observation. Seventy-two hours after the probable time of occurrence of the accident, the patient was seen by another thoroughly competent medical man, who also failed to recognize the complication upon his first, or upon any subsequent visit.

Dr. Reeve's proposition has an important bearing upon the differential diagnosis between inversion of the uterus and sessile polypus, and indicate that no reliable evidence can be obtained from the history of the case.

(3) *Treatment.* Carl Braun, in 1851, introduced a simple, convenient, and safe method of the vaginal tamponade (colpeurysis) by means of a caoutchouc bag (colpeurynter). The reduction of chronic inversion of the uterus by colpeurysis was inaugurated by a communication from Tyler Smith to the Royal Medical and Surgical Society of London, April 13th, 1858. In this communication, Tyler Smith reports the reduction of a chronic inverted uterus by taxis in connection with continuous elastic pressure by means of Gariel's air-pessary. Barrier, of Lyons, in 1852, employed an air-pessary to retain the uterus in position, but with no avowed intention of using continuous elastic pressure to effect reduction, as intimated by Donneé. M. P. Teale, Jr., of Leeds, and West effected reductions of the inverted uterus in 1859 by Tyler Smith's method. It was reserved for Bockenthal, as remarked by Thomas, to demonstrate in the same year that reduction could be effected by the colpeurynter, unaided by taxis.

As a matter of practical import, the colpeurynter used in the case described was a quadrilateral, caoutchouc bag, ten cm. long, five cm. wide when collapsed, and possessing a maximum circumference of twenty-one cm. when distended. It is known in the shops as

"No. 5 pear-shaped water-pessary." The selection of a properly-shaped and properly-sized instrument demands some care. Dr. Byford's treatise is the only American text-book on gynaecology which gives an adequate exposition of colpeurysis as one of the methods of reduction of chronic inversion of the uterus. This fact may be interpreted as indicating that the method is not extensively practised in the United States, and a survey of American medical literature upon this subject will serve to confirm such an opinion. In the very large majority of cases, more heroic measures have been adopted. On the other hand, colpeurysis has largely replaced all other modes of treatment in Germany. Fritsch says: "Gradually, almost all gynecologists have gone over to Braun's colpeurynter." "The treatment with the colpeurynter is the sovereign method of treatment in cases of inversion of the uterus. Inversions yield to it which have resisted all other methods. The resistance which the cervix opposes may be so great that Muzeaux (quadrivalve) forceps inserted into the portico tear out, and still the uterus remains unmoved. If colpeurysis is now resorted to, earlier or later, a successful result is bound to follow, without the application of violence and without danger. It is, therefore, urgently advised to give up every attempt at forcible reposition of the uterus." He adds the significant sentence: "Colpeurysis cannot be held as without effect, even if the end is not immediately attained; it may be continued, with interruptions, fourteen days, yes, even three weeks." "The best method of treatment of chronic inversions," says Rheinstaedter, "is the introduction of a colpeurynter, which is gradually distended with water." Schroeder has repeatedly effected the reduction of the chronic inverted uterus after the failure of all efforts at manual reposition.

(The discussion on this paper is deferred to next week.)

— A certificate of disability, issued by Dr. A. Y. P. Garnett to a government employee, was returned by a United States pension officer, with the demand that the doctor should strengthen it with implicit information. Dr. Garnett declined to furnish this information, on the ground that it would involve the violation of professional obligations. In this decision he has been sustained by Secretary Lamar, who has thus established a precedent which petty courts and government officers will not presume in future to set aside.

— The Graefe medal, recently instituted by public subscription, in perpetual memory of Albrecht von Graefe, is awarded every ten years by the Ophthalmological Society, meeting annually at Heidelberg, to the man of whatever nation who may be designated as having rendered the greatest service to ophthalmology. The ceremony of the first presentation of the medal took place at the close of the Quincenary Festival of the University of Heidelberg, on the 9th of August, 1886, Professor von Zehender, of Rostock, presiding, in presence of the Pro-Rector, Professors, and many distinguished visitors. The medal was awarded to Professor von Helmholtz, and the oration on the occasion of its presentation was given by Professor Donders, of Utrecht. It is given in full in the *British Medical Journal* of December 11th.

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### SEVERED DIGITS.

DURING the last few months the JOURNAL has contained several communications in regard to the reunion of portions of fingers severed from which they had been completely severed. Five different physicians have recorded ten cases which have fallen under their own observation; eight in the reporter's practice and two in the practice of the reporter's father. Of these ten cases four are reported as perfect; three cases were successful but there was more or less impairment of sensation; one lost half the last phalanx by sloughing; two only can be considered as failures, both of them united but one afterwards separated, the other shrivelled and was practically worthless. We have also quoted during the same time a case from a Russian surgeon in which a portion of a thumb became reunited with perfect sensation but limited motility, and this week's JOURNAL contains another equally well-authenticated case occurring in domestic practice.

That as large a number of cases should be reported in so short a time is quite surprising. It establishes however, the fact that reunion is possible: a fact in opposition to the former belief of the majority of the profession. The cases reported are, with two exceptions, all successful; how great a proportion they would bear to the utter failures it is impossible to guess, but twelve cases in which some sort of adhesion has taken place, are enough to warrant much more careful attempts to restore small portions of the body which have been accidentally amputated.

The fingers most suitable for preservation, or those most likely to reward the attempt, would seem to be those which have been removed by a clean cut, so that suppurative union between the two portions may be avoided. The time which may elapse between the accident and the successful replacement of the separated portion would seem to be very long. In Dr. Nivison's case three or four hours had elapsed during a portion of which time the fingers had been covered by snow. In these successful cases great care was evidently

taken to secure perfect cleanliness of the cut and careful apposition of the fragments together with such other care as seemed likely in the eyes of the surgeon to secure union without suppuration.

The literature of the subject is evidently not very large; still a very considerable number of reported cases are accessible, of fingers and other portions of the body, which have reunited after separation. An interesting case, for the fulness of detail with which it is reported, is that of Dr. Goschler, in the *Wiener Medizinisch Wochenschrift* for 1868. A man of sixty chopped off nearly the whole of the last phalanx of the ring finger, preserved the fragment for three-quarters of an hour in water at a temperature of 11° Réaumur. In thirty-six hours there was evidently agglutination, during the third, fourth and fifth days the extremity was cold, but adherent and evidently sensitive. On the ninth day the reunion of the soft parts was assured, but there was no union of the bony fragments. At the end of a month recovery was complete.

### EXPERIMENTS IN TRAP SIPHONAGE AT THE NAVY MUSEUM.<sup>1</sup>

REPEATED experiments on trap siphonage have shown beyond question that the ventilation of soil-pipes and traps is a safeguard against the entrance of sewer gas into dwellings except in unusual contingencies, provided the general plan of the drainage and sewerage is correct and the workmanship good. The experiments at the Navy Museum in Washington have confirmed the results of those reported to the National Board of Health by Philbrick and Bowditch, and are stated in the following terms:

- (1) The seals of ventilated traps are safe against siphonage and back pressure.
- (2) The seals of unventilated traps are never safe from siphon action or back pressure, except in deduction four.
- (3) The vertical vent should be three inches, with a four-inch soil-pipe.
- (4) Traps connected on a horizontal pipe and fixtures discharging on the same level into horizontal pipe apparently have no effect on unventilated traps.
- (5) All varieties of non-mechanical traps are more easily affected by back pressure than by siphonage.
- (6) The ball-traps were not affected by back pressure, but by siphonage.
- (7) The Sanitas trap withstood siphon action better than any of the patent traps, but was easily affected by back pressure.
- (8) The sewer air is more liable to enter unawares by back pressure through the seal of the trap, because the seal remains unbroken.
- (9) Difference in friction of iron and lead pipes made no apparent difference in the effect on the traps.

<sup>1</sup> Report on Experiments in Trap Siphonage at the Museum of Hygiene, United States Navy Department, Washington, D. C. By Glenn Brown, Architect. Washington: Judd & Detweiler, Printers, 1884.

We are left in the dark, however, as to the precise nature of the unusual contingencies under which it is admitted that ventilated traps may be siphoned out and the emanations from the sewers enter houses; and Putnam and Waring think that they have shown that the so-called unusual conditions may occur where not in the least suspected, although a patent trap and water-closet intended to meet these "unusual contingencies" might perhaps serve as a bias against entirely unprejudiced judgments in the case.

It is true, however, that the approved methods of plumbing are now so costly as to make them practically unattainable to many householders, and that, outside of a very simple system of plumbing for moderate-sized houses, it is difficult to know with certainty what is safe and what not. The Museum of Hygiene, under the Navy Department, has an excellent opportunity to show just what the conditions are by which water-closets and soil-pipes inside a house may be made free from danger, and, it is to be hoped, that this will be done, no matter what the cost of time or money. If plumbing can be simplified and cheapened at the same time, the benefit to society will be incalculable.

#### CEREBRAL SYPHILIS.

DURING the past year various publications on the subject of Cerebral Syphilis have appeared which are well worthy of notice.

The view that syphilis rarely attacks the brain substance itself but rather the membranes, the sheaths of the vessels that arise from the pia, and especially the arachnoid at the base of the brain, from the optic chiasma to the pons, finds support from Gerhardt.<sup>1</sup> In the majority of his cases the first symptoms appeared at least five years after infection. Mental overwork, alcohol, and disordered living lead to cerebral congestion, and thus aid the development of syphilitic disease. Traumatism is an important exciting cause, and so, to a less degree, is emotional excitement. In many cases a diagnosis can be made without a previous history of infection, which should be our aim. Repeated apoplectic attacks in young persons without any cardiac disease, ocular paralyses, ptosis, epilepsy coming on after childhood without known cause, cortical epilepsy, monoplegia, acute bulbar symptoms, and inexplicable symptoms of hernia are all important in diagnosis. Apoplexy is common; it usually comes on slowly with prodromata, from an advancing thrombosis. A gumma does not cause the signs of a massive tumor like glioma. More cases are detected now than formerly, and the diagnosis can be made earlier, hence more recover, as the early stages are curable. The treatment should be early and energetic, and should be kept up as long as possible. Gerhardt thinks we ought now to improve on Fournier's data in prognosis, that one-third get well, one-half improve, and one-sixth die.

<sup>1</sup> C. Gerhardt. Ueber Hirnsyphilis. Berlin, kl. Wochenschrift, Nr. 1, 1886.

Amidon<sup>2</sup> thinks that the importance of syphilis as a cause of nervous disease has been over-rated, because alcohol, tobacco, excess, worry, etc., are overlooked. Many obscure cases are not syphilitic, although there is a history of syphilis. A gumma is curable, but, if not treated, may cause pathological conditions, which will not yield to subsequent treatment. He cites ten cases, in which the period of incubation averaged nine years. Three cases showed symptoms of periencephalitis, secondary to the syphilitic lesion. Endarteritis may be cured, but not the thrombotic softening following it. A frank growth yields more easily. The late lesions of syphilis are local or diffuse, and not systemic, and hence in Dr. Amidon's opinion *tuberc dorsalis* is not a syphilitic disease. The treatment must be prompt and persistent; and when the early symptoms appear, such as headache, neuralgia, vertigo, insomnia, vesical weakness, sexual excitement, etc., the patient should at once consult a physician.

Lays<sup>3</sup> had stated as an interesting and previously unknown fact, that in doubtful cases of cerebral syphilis he has found little sclerosed nodules, which can be felt on the cut surface of the pons and basal ganglia.

#### THE GASEOUS MEDICATION, PER RECTUM, OF PULMONARY DISEASES.

THE latest novelty in therapeutics comes from a Frenchman, Bergeon by name. The "new medication" consists in treating certain pulmonary diseases attended with cough (chronic bronchitis, whooping-cough, phthisis, etc.) by rectal injections of certain gases, which are readily absorbed and eliminated by the lungs, such as carbonic acid, sulphuretted hydrogen, and sulphide of carbon. These gases, at the moment of elimination, are believed to have a favorable modifying influence on the diseased mucous membrane, promoting the resolution of inflammation, the healing of ulcerations, and wonderfully diminishing cough and expectoration.

It has long been known that certain medicines given in pulmonary complaints for the relief of cough, such as copaiba, turpentine, and carbonate of ammonia, largely owe the benefit which frequently attends their use to the modifications which they effect on morbid states of the pulmonary mucosa, while being eliminated by that emunctory. It has been known, too, that various gases, such as those above mentioned; when absorbed by the venous system, also pass out in the air of expiration.

It was, many years ago, proposed to treat diseases of the lungs by causing patients to respire medicinal vapors, and many have been the attempts made to fulfil this indication, with, however, but indifferent success; the medicated vapors, as ordinarily inhaled, were found not to penetrate very deeply, and to be far less diffusible than was thought *a priori* to be the

<sup>2</sup> R. W. Amidon. On the Incurability of Certain Nervous Affections occurring among Syphilitics. Medical News, January 16, 1886.

<sup>3</sup> Des Syphilomes de l'encéphale. L'encéphale, January, 1886.

case; some gases, as carbonic acid and sulphuretted hydrogen, could not be respired with impunity. It remained for M. Bergeon, basing himself on some experiments of Claude Bernard, to show the practicability of the treatment of pulmonary diseases by causing these latter gases to be absorbed by the rectum. This method, according to M. Bergeon, has also another advantage, namely, that of distributing the medicament throughout the entire pulmonary mucous membrane, and thus ensuring its contact with such parts as are diseased.

The method employed by M. Bergeon is quite simple; he makes use of a mixture of carbonic acid and sulphuretted hydrogen. Pure carbonic acid, generated on the spot from *cartouches* containing an exact quantity of tartaric acid and bicarbonate of soda, is conveyed into a rubber bag of just the capacity of four liters; the latter is connected by suitable tubing, with a rubber-ball injector which is worked by the hand, and which also makes part of a rectal tubing and canula, resembling that of a Davidson syringe. The rubber bag is filled with carbonic acid, which flows into it from a glass-generator, in which the contents of the *cartouche* are dissolved; the gas, before being injected, is made by an ingenious device to pass through a glass flask or *barboteur* containing a solution of sulphuretted hydrogen, where a blending of the two gases takes place, and it is this gaseous mixture which is utilized for injection. It has been found by M. Bergeon that no other solution of sulphuretted hydrogen gives so satisfactory results as natural mineral waters, particularly the *Eaux Bonnes* of the Pyrenees.

Apparatuses for the manufacture *in loco* and therapeutic application of this new remedy are now for sale by the instrument-makers of Paris. The directions given for the use of the apparatus are as follows: "Only one, or, at the most, four liters of the gas are used on each occasion. The injection must be made slowly and without force, and it is necessary to leave an interval of from ten to fifteen seconds between the successive pressures made on the rubber ball, and to allow about half an hour for the entire operation. One, or, at the most, two injections (or 'séances') are practised per day.

Bardet, in the *Journal Nouveaux Remèdes*, and Dujardin-Beaumetz in the *Bulletin Général de Thérapeutique*, have reported the results of several trials of this new system of pulmonary therapeutics in the Hospital Cochin. "All agree," they say, "as to the signal benefits derivable from this treatment. In chronic bronchitis of whatever nature, the three following modifications are constantly obtained: diminution and rapid modification of the expectoration, diminution of the cough and of the oppression; there ensue, as a consequence of this amelioration, better sleep, better appetite, and an augmentation of weight." These gaseous rectal injections are said to be generally well tolerated, when slowly and carefully made. In pulmonary phthisis, it is claimed that marked amelioration has been obtained.

Dr. J. Henry Bennet gives, in the *British Medical Journal* of December 18, 1886, an account of his personal conversation with the inventor of this new process of medication, and while claiming to have heard of it at first only with incredulity, he ended by acknowledging its reasonableness in theory, and its efficacy in some cases in practice. In a lecture which M. Bergeon gave upon the subject to a score of the physicians of Mentone, he claimed that the failures which have resulted from the process have been due merely to faults in its performance. Thus, if the bag of carbonic acid is not scrupulously emptied and freshly filled before each operation, some atmospheric air will penetrate it, and, being injected, will cause intestinal pain and irritation. Not only is air an irritant to the bowel, but so are other chemical agents that have been tried, as chlorine, turpentine, ether, and ammonio-bromine, some of which even produced gangrene in the animals on which they were tried. Dr. Bennet was much impressed by the relief given to an aggravated case of asthma by the injections.

We shall await with interest the results of further trials in the Parisian hospitals of this new method of treating pulmonary diseases; it is not a mode which is destined rapidly to become popular, in this country, at least, nor will it be likely soon to come into favor with physicians in private practice.

#### MEDICAL NOTES.

— A contemporary points out the fact that of the fifty-five signers of the Declaration of Independence, five were physicians.

— According to the *Medical Record*, London has only 90,000 paupers, according to its census, yet it treats in free hospitals 1,000,000 of patients annually, at a cost of \$2,500,000. Its annual hospital deficit is \$250,000.

— "Pneumatic differentiation" seems likely to mean differences between manufacturers of the pneumatic cabinets. The Pneumatic Cabinet Company of New York, announces that they will prosecute every physician using any other cabinet than the one they manufacture.

— The *Maryland Medical Journal* says that a very poor and aged white woman was murdered on November 10th, at her home in Baltimore, by two colored men named John T. Ross and Albert Hawkins. The object of the murder was to get fifteen dollars for the body of the victim. Anderson Perry, well-known to many of the recent graduates of the University of Maryland, first as a ward-master at the infirmary, and more recently as an attendant in the dissecting-room at the University, is charged as an accessory to the crime. The murder was conceived and executed in the most premeditated and cold-blooded manner.

— *Truth*, November, 1886, makes the following comment upon the infallibility of analysts. "Six samples of beer were to be sent to Guy's Hospital for analysis;" and in the presence of Councillor Taylor,

a member of the Food and Drugs Committee, and a professional chemist, "a large quantity of a most deadly poison" was placed in one of the samples by way of checking the analysts. The report on this sample was: "I am of opinion that this sample of beer is genuine." The experts subsequently explained in their own defense "that the above result is perfectly natural, inasmuch as an analyst can only test for what he has reason to suspect."

— We find in a Western contemporary a quotation from a Boston letter to the *New York Tribune* which paints a very glowing picture of the openings for female physicians in Boston. The writer says that "a properly educated woman physician can secure in Boston a paying practice within one year." It is further affirmed that there are nine women physicians who have the "swell practice" of Boston. These have been in practice from five to twenty-five years, and have incomes ranging from five to twenty thousand dollars a year. Whether these are all "properly educated" physicians is not stated. If so it would be money in the pocket of a medical man if he could be born a female.

## BOSTON.

— The melodramatic suicide of two young women recently, by means of that common article of "domestic consumption," "Rough on Rats," calls attention again to the folly of allowing the sale of deadly poisons without restrictions. It is very generally known that "Rough on Rats" contains arsenic in large quantities, and it is still more generally known that it can be purchased from grocers or apothecaries, no questions asked, by any one having the few cents to pay for a box. If a servant girl, otherwise known as the "lady-help," thinks she is not treated with a sufficiently distinguished consideration, she puts a box full of "Rough on Rats" in the flour barrel or in the family tea-pot; two such actual cases have been commented on in these columns within a year or two; if a young woman has a jealous "tiff" with a lover after dinner on Christmas evening she puts half a box of the compound into her own stomach; and most startling of all, another young woman swallows a full box out of mere sympathy and affection for her friend and companion. We shall take occasion to revert to this subject again.

## NEW YORK.

— The receipts reported up to Friday, December 31st, from the Annual Hospital Saturday and Sunday Collection, which was made December 24th and 25th, amount to \$13,146.54.

— The Brooklyn Health Department estimates the present population of that city, based upon the returns from various municipal departments, at 745,108, an increase of 35,108 since July 1, 1886.

— On Thursday morning, December 30th, an extra meeting of the Academy of Medicine was held, when Dr. F. H. Bosworth read a paper on "Deformities of the Nasal Septum": A new operation for its correc-

tion, with an analysis of its results in 160 cases, as throwing new light on the pathology of intra-nasal diseases, and their relation to laryngeal and bronchial affections, hay fever, asthma, and other so-called nasal reflexes.

— The fair which was recently held at the New Central Park Garden in aid of the Montefiore Home for Chronic Invalids, a Jewish institution, was attended by over seventy thousand visitors, while the receipts amounted to more than \$160,000.

— A peculiarly sad case is reported from the German Hospital at Newark, N. J., where Dr. Anatol Roessler, the house physician, died from diphtheria, December 30th, having contracted the disease one week previously from a child suffering from it, in whose case he had performed tracheotomy. Dr. Roessler was born in New York in 1862, and his mother, who is a widow of limited means, and whose only child he was, had made many sacrifices in order that he might be enabled to pursue his medical studies. He was a graduate of Bellevue Hospital Medical College, and only received the appointment as house physician to the hospital in Newark on the 1st of December last.

— The Superior Court, Justice Sedgwick presiding, last week rendered a decision which has been received with much gratification by the entire profession. This reverses the judgment in the case in which Angelina M. Brown obtained \$500 damages from Dr. Purdy, on the allegation that he had caused her to be placed in the small-pox hospital on Blackwell's Island when she was not suffering from this disease. Judge Sedgwick holds that there was no ground of action against the defendant, and states that it was the doctor's duty to report the case if he believed it to be of an infectious nature. He furthermore decides that the defendant was not, under any circumstances, liable, as the plaintiff was sent to the small-pox hospital by the sanitary inspector who had charge of the investigation of the case.

— The report of Dr. John T. Nagle, of the Bureau of Vital Statistics, shows that in the past year there were 31,819 births, 12,216 marriages, and 37,330 deaths in the city, an increase of 1,289 births, 500 marriages, and 1,648 deaths over the previous year. The deaths from zymotic diseases numbered 9,657; from constitutional diseases, 8,210; and from local diseases, 15,817. There were 1,466 violent deaths, 31 deaths from small-pox, one from yellow fever, 775 from measles, 1,731 from diphtheria, 370 from scarlatina, 966 from membranous croup, 576 from whooping-cough, 324 from typhoid fever, 14 from typhus fever, 369 from puerperal diseases, 211 from alcoholism, 778 from cancer, 1,707 from bronchitis, 3,665 from pneumonia; heart diseases, 1,892; sunstroke, 42; apoplexy, 761; and kidney diseases, 2,214. There were 224 suicides — 173 men and 51 women — of whom 99 were Germans and 59 native born.

Of the deaths reported, 2,495 were of persons over

70 years of age, and five over 100 years. The deaths of children under one year numbered 9,871, and those of children under two years, 13,064. The deaths of children under five years were 43.3 per cent. of all deaths, numbering 16,151, against 15,267 in 1885, and 17,520 in 1882. Diphtheria was the most fatal zymotic disease of the year. Of the total number of deaths, 7,136 were in institutions, 21,454 in houses containing over four families, and 526 in the streets or rivers. Of the 31,319 births, 16,191 were males, and 15,127 females. The foreign-born mothers numbered 19,058, and native mothers, 12,259. One foreign-born mother bore her twentieth child, and one native mother her twenty-second child.

### Miscellany.

#### THE MEDICAL AND MEDICO-LEGAL FACTS IN THE COLIN CAMPBELL CASE.

THE Colin Campbell case has really amounted to something more than a newspaper *bonne-bouche*, having involved, as we learn from the medical facts published in the *Medical Press*, a question at once novel and important in forensic medicine. At the first trial, wherein Lady Colin obtained a decree of judicial separation, which decree on appeal to a higher court was reaffirmed, it was shown in evidence that before marriage the husband had been suffering from perineal abscess, the sequel of gonorrhœa contracted some few years previously, for which abscess he had undergone one or two surgical operations — namely, perineal section into the urethra. Marriage took place before the parts were restored to health, but it was previously agreed that separate beds should be occupied for two months or so in order to permit of recovery. The contention of the wife was that although he had been operated upon and was not as yet recovered at the time of marriage, yet she had no idea he was suffering from any disorder of the genitals, but had thought it was something of the nature of piles. Communications had been made to her by medical men, but she asserted that this was thus understood by her. However, after some time permission was given to commence intercourse; but as the husband was again laid up it had to be discontinued, and further operations became necessary. Intercourse was occasionally resumed, but ultimately the wife's health was affected, and it was found she was suffering from irritation of vagina and vulva, with uterine leucorrhœa. Local applications were made to the vagina and cervix uteri, but without much benefit. Dr. Braxton Hicks was called in after an attack of very severe pain on one side of the pelvis, who found there a cellulitic effusion; after a few weeks this subsided, but still the uterine catarrh remained with much irritation of the vagina. As the canal had been well medicated without benefit, the os was dilated. It was evident that the uterine cavity was larger than normal. A silver tube was passed, through which the interior of the uterus was painted over by a brush charged with iodized phenol. This cured the complaint. However, upon overtures being made by the husband for renewal of cohabitation, she begged him to refrain in future, he being still uncured, and to occupy a separate bed. He said if

this was to be the case he would leave her; but she rejoined that if so, she must make clear the reason. Hence this action for separation. And the question asked the Court was whether under these circumstances it was obligatory on a wife to permit cohabitation; and, if not, then an order in her favor was requested. Evidence having been taken on the above-mentioned facts, the question put by the Court to many witnesses was whether the endometritis and other symptoms from which the wife suffered were likely to result from coitus where purulent secretion found its way into the urethra. It was then stated by several medical men, that although there were many causes which produce like symptoms, it was a result quite to be expected under the circumstances. The result of the evidence on his part was to confirm the cause and circumstances of his illness and severe operations, as above described, and the jury (special) after a brief consultation found that the husband had been "guilty of cruelty," which was the legal form of the plaint, and the Court decreed a judicial separation. An appeal was granted. The husband argued the case in person, but the upper Court confirmed the decree of the Court below. No similar case had been in the Divorce Court before, and in any way the decision in its principle was important.

#### YELLOW FEVER INOCULATION BY ONE OF THE PROTECTED.

OUR readers will recall the interesting communication by Dr. Lane, of Brazil (*JOURNAL* June 10, 1886), on Freire's yellow fever inoculations. We find in the *Lancet*, November 6, a description, summarized from the *Journal de Médecine de Bordeaux* of the observations and experiments of Dr. Freire by Dr. R. Issartier, surgeon in the Messageries Maritimes, who has submitted himself to Dr. Freire's anti-yellow fever inoculation. The microbe found in all the fluids of persons and animals dead of yellow fever, in their vomit, and even on the walls of yellow fever wards and in the earth of the cemetery, is named *Cryptococcus xanthogenicus*. Wherever it existed it served to inoculate animals, and a guinea-pig kept in a confined space containing a jar of fresh earth from the cemetery, very soon died, while other guinea-pigs kept in a similar space with the same earth, sterilized by heat, remained sound. A series of animals could be inoculated from one another, and the virus appeared to lose nothing of its activity by transmission, so that Prof. Freire had to try some other plan for attenuating it for "vaccination" purposes. This he succeeded in doing by means of gelatine cultures in Pasteur's flasks. After the seventh culture guinea-pigs inoculated with the attenuated virus appeared to suffer only a slight indisposition, instead of dying, as those inoculated with each of the preceding ones did. The writer and a number of other medical and lay persons, together with Dr. Freire himself, were inoculated or "vaccinated" with the seventh culture, and none of them experienced more inconvenience than slight headache and transient malaise. They were subsequently proved to be quite unaffected by much more virulent cultures. Dr. Issartier states that the yellow fever mortality among the protected persons in Rio was 1.6 per cent., while among the rest of the population it was 13.7 per cent.

## Correspondence.

## SEVERED DIGITS.

BEVERLY, MASS., Dec. 24, 1886.

MR. EDITOR,—In a letter dated "Burlington, Feb. 24, 1840," from Professor Joseph Torrey to Dr. Augustus Torrey, I find that domestic surgery has been successful in repairing severed digits.

"My eldest son, Joseph, a few days since, cut off the end of his thumb, taking about half the nail, with a hatchet. He left the piece among some shavings, on the floor. After a little search I found it still warm; his mother fixed it on with sticking plaster, and it has grown as firm and even as if there had been no cut at all." An

extract from a letter written me lately by the patient above alluded to, says: "The healing was perfect, and for many years the line of the cut was quite distinct. Now it is just visible, though it seems much nearer the end of the thumb than it did when I was a boy. I don't think the detached portion has ever grown much, though the end of the thumb is entirely symmetrical. That is, without increasing in size, the little piece has adapted itself in shape to the place, so that what was once quite a considerable fraction of my *big* thumb has become the proportionally much smaller terminus of the man thumb.

It was when I was seven years old, and I well remember the whole scene—including the *lint* in which it was done up for some days before the bandage was removed."

Respectfully yours, S. W. TORREY, M.D.

## REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 25, 1886.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Measles.	Diph. & Croup.	Diarrhoeal Diseases.
New York . . . . .	1,430,030	805	368	39.60	28.08	14.40	16.08	2.64
Philadelphia . . . . .	971,363	—	—	—	—	—	—	—
Brooklyn . . . . .	600,000	338	157	19.43	13.81	3.77	8.12	.58
Chicago . . . . .	630,000	—	—	—	—	—	—	—
Boston . . . . .	390,406	187	64	13.78	12.19	1.59	6.36	1.16
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,220	116	41	11.08	13.40	—	6.88	.86
Cincinnati . . . . .	325,000	138	55	16.79	13.14	7.30	2.92	1.42
New Orleans . . . . .	238,000	134	28	13.33	15.50	—	2.22	5.18
Buffalo . . . . .	302,518	—	—	—	—	—	—	—
District of Columbia . . . . .	205,000	94	44	23.44	8.48	10.60	9.54	—
Pittsburgh . . . . .	190,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	118,070	—	—	—	—	—	—	—
New Haven . . . . .	78,000	—	—	—	—	—	—	—
Nashville . . . . .	60,000	22	8	22.75	18.20	—	13.65	4.55
Charleston . . . . .	60,145	34	9	5.88	5.88	—	—	—
Worcester . . . . .	68,383	17	4	11.76	29.40	—	—	5.88
Lowell . . . . .	64,051	33	8	12.12	6.06	3.03	3.03	—
Cambridge . . . . .	59,630	19	9	5.26	10.52	—	5.26	—
Fall River . . . . .	56,833	18	4	5.85	—	—	—	5.55
Lynn . . . . .	45,861	10	1	—	20.00	—	—	—
Lawrence . . . . .	38,825	12	3	25.00	16.66	—	—	—
Springfield . . . . .	37,577	13	4	—	15.38	—	—	—
New Bedford . . . . .	33,393	16	6	31.25	13.00	—	—	25.00
Somerville . . . . .	29,592	—	—	—	—	—	—	—
Salem . . . . .	28,084	5	1	—	—	—	—	—
Holyoke . . . . .	27,894	—	—	—	—	—	—	—
Chelsea . . . . .	25,709	10	3	20.00	30.00	—	20.00	—
Taunton . . . . .	23,674	8	0	25.00	37.50	—	—	—
Haverhill . . . . .	21,716	12	7	16.66	25.00	—	8.33	—
Gloucester . . . . .	21,713	3	2	—	33.33	—	—	—
Brookton . . . . .	20,783	7	2	—	14.28	—	—	—
Newton . . . . .	19,759	3	2	—	—	—	—	—
Malden . . . . .	16,407	8	2	—	12.50	—	—	—
Fitchburg . . . . .	15,375	8	2	13.50	25.00	—	—	—
Waltham . . . . .	14,605	4	0	—	25.00	—	—	—
Newburyport . . . . .	13,716	4	2	—	25.00	—	—	—
Northampton . . . . .	12,896	—	—	—	—	—	—	—
Massachusetts Towns . . . . .	—	—	—	—	—	—	—	—

Deaths reported 2,082; under five years of age 736; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 368; consumption 290, lung diseases 384, diphtheria and croup 140, measles 98, diarrhoeal diseases 32, scarlet fever 24, typhoid fever 23, malarial fevers 19, whooping-cough seven, erysipelas 14, cerebro-spinal meningitis five, puerperal fever four. Small-pox (Brooklyn) two. From scarlet fever, Brooklyn nine, New York eight, Pittsburgh four, Cincinnati two, Haverhill one. From typhoid fever, Boston five, Cincinnati four, New York three, Brooklyn, Baltimore and New Orleans two each, Worcester, Lowell and Lawrence, New Bedford and Fitchburg one each. From erysipelas, New York five, Baltimore and Charleston two each, Brooklyn, Boston, Cincinnati, New Orleans and Taunton one each. From malarial fever, Brooklyn eight, New Orleans five, New York four, Nashville and Lawrence one each. From whooping-cough, New York, Brooklyn, and Boston two each, Pittsburgh one. From cerebro-spinal meningitis, New York four, Boston one. From puerperal fever, New York, Boston, Lowell and Taunton one each.

In the 18 cities and greater towns of Massachusetts, with a population of 943,470 (population of the State 1,941,465) the

total death-rate for the week was 20.50 against 21.05 and 23.05 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,065,817, for the week ending December 11th the death-rate was 22.9. Deaths reported 3,984; infants under one year of age 975; acute diseases of the respiratory organs (London), 494; measles 181, scarlet fever 65, whooping-cough 60, fever 50, diarrhoea 35, diphtheria 32, small-pox (Leeds) one.

The death-rates ranged from 33.3 in Wolverhampton to 12.1 in Brighton; Birmingham 18.0; Bradford 20.7; Hull 17.7; Leeds 25.7; Leicester 22.0; Liverpool 25.2; London 21.9; Manchester 29.2; Newcastle-on-Tyne 25.2; Nottingham 19.9; Sheffield 24.8.

In Edinburgh 17.0; Glasgow 26.9; Dublin 35.6.

For the week ending December 11th, in the Swiss towns, there were 34 deaths from consumption, lung diseases 21, diarrhoeal diseases 17, diphtheria and croup nine, measles four, whooping-cough one, erysipelas one.

The death-rates were: at Zurich 7.6; Geneva 20.2; Basle 14.8; Berne 37.4.

The meteorological record for the week ending December 25, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending Saturday, Dec. 25, 1886.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ... 19	30.030	40.0	46.0	35.0	80.0	60.0	74.0	74.0	W.	W.	N.W.	9	8	6	C.	C.	C.	—	—
Monday, ... 20	30.172	32.0	37.0	28.0	64.0	53.0	65.0	61.0	N.W.	N.W.	N.W.	7	7	8	O.	F.	C.	—	—
Tuesday, ... 21	30.161	33.0	41.0	21.0	81.0	43.0	64.0	63.0	W.	S.W.	W.	5	14	14	C.	F.	C.	—	—
Wednesday, ... 22	30.278	37.0	40.0	35.0	61.0	57.0	58.0	59.0	W.	W.	N.W.	8	2	5	O.	O.	O.	—	—
Thursday, ... 23	30.433	36.0	40.0	30.0	78.0	68.0	77.0	74.0	N.	S.E.	S.E.	11	6	5	C.	F.	O.	—	—
Friday, ... 24	29.807	50.0	55.0	35.0	92.0	88.0	100.0	93.0	S.	S.	S.W.	15	16	22	O.	R.	H.	—	—
Saturday, ... 25	29.976	30.0	54.0	18.0	76.0	36.0	44.0	52.0	N.W.	N.W.	N.	12	18	14	O.	C.	O.	12	1.01
Mean, the Week.	30.135	36.8	45.0	27.0				68.											

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 25, 1886, TO DECEMBER 31, 1886.

KOESPER, EON A., major and surgeon. Granted leave of absence for two months, to take effect about January 1, 1887. S. O. 297, A. G. O., December 27, 1886.

PHILLIPS, JNO. L., first lieutenant and assistant surgeon. Granted one month's extension of his leave of absence. S. O. 297, A. G. O., December 27, 1886.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JANUARY 1, 1887.

ANDERSON, F., passed assistant surgeon. To United States Steamship "Metis."

AUZAL, E. W., assistant surgeon. Detached from Revenue Steamship "Independence," and ordered to Coast Survey Steamer "McArthur."

GRIFFIN, E. H., passed assistant surgeon. Detached from Naval Laboratory for temporary duty on Revenue Steamship "Independence."

GATEWOOD, J. D., passed assistant surgeon. To Naval Academy, January 5, 1887.

#### SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.—THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, January 12, at 7.45 o'clock. A debate upon "Poisoning by Arsenical Wall Papers," will be opened by Dr. J. B. Chadwick. Drs. S. W. Abbott and H. P. Walcott, of the Massachusetts State Board of Health, Prof. E. S. Wood, Prof. E. J. Young, Prof. H. P. Bowditch, Prof. W. B. Hills, and Prof. Lyons, of Harvard University, Dr. J. M. Harlow, of Woburn, Drs. E. C. Stedman, F. H. Brown, and F. W. Draper, Mr. Gregory, and Mr. J. P. Bumstead. Paper-Dealers and others are expected to take part in the discussion.

ALBERT N. BLODGETT, M.D., Secretary.  
F. L. KNIGHT, M.D., Chairman.

GYNECOLOGICAL SOCIETY OF BOSTON.—The annual meeting of the Society will be held at No. 19 Boylston Place on Thursday, January 13, 1887, at 4 o'clock, P. M. Communications: a paper by Dr. Apostoli, of Paris, entitled, "A New Method of Treatment of Chronic Metritis—and especially Endometritis—by the Intravaginal Chemical Galvano-Cautic," will be read by Dr. L. R. Fox, of Lowell. President's Address by Dr. H. O. Marcy, "Recent Advances in Abdominal Surgery." Refreshments will be served after the meeting.

H. J. HARRIMAN, Secretary.

#### OBITUARY. HORATIO NELSON SMALL, M.D.

Died in Portland, Me., December 29, 1886, Horatio Nelson Small, M.D., aged forty-seven. For many years their associate in the medical profession, having been removed from their midst by death, the physicians of Portland, desiring to give public expression of their estimate of his character and of their

grief at his loss, make the following statement of their sentiments:

Dr. Small justly occupied a foremost place among the practitioners of his region. Devoted to the interests of his patients, remarkably successful in ministering to their infirmities, cheering and sustaining them in their despondency, he quickly won the confidence and affection of a large clientele. As an obstetrician he easily took the lead, and was, in this capacity, alike valued by patients and physicians. In every position of trust and responsibility to which he was called—as army officer, examiner of pensioners, teacher, practitioner, husband, citizen—his conduct was marked by the qualities which ever distinguish a pure, noble, and exemplary life. But, while these traits compelled respect and admiration, the characteristics for which he will be longest and most tenderly remembered was the abounding kindness of spirit, which endeared him to all who knew him well. Equally to the dreary hovel of the poor and the sick-chamber of the rich he came like a beam of sunshine. The cheerfulness of his face and voice was but the manifestation of his happy disposition, and made him always welcome in every company. Even when feeling deeply wronged, he was slow to attribute sinister motives, and displayed hardly a trace of disturbance or serenity. The older of his fellows held him as a wise and faithful counselor, and to the younger he was a willing and generous support in their troubles. All his brethren unite in mourning his untimely fate, and will ever fondly cherish the memory of his sweet nature as a precious heritage.

FREDERICK H. GERBISH,  
AUG. S. THAYER,  
CHAS. O. HUNT,  
Committee.

#### APPOINTMENT.

Dr. Richard L. Hodgdon, of Arlington, and Mr. C. C. Coffin, of Boston, have been appointed members of the Massachusetts Board of Lunacy and Charity.

#### BOOKS AND PAMPHLETS RECEIVED.

The Contagious and Parasitic Diseases of Animals. Issued by the State Board of Health of Maine.

Circulars of Information of the Bureau of Education. No. 1, 1886. The Study of Music in Public Schools. Washington. 1886.

Gout and its Relations to Diseases of the Liver and Kidneys. By Robson Roose, M.D.F.C.S. Third Edition. London: H. K. Lewis. 1887.

The Physician's Handbook for 1887. By William Elmer, M.D., and Albert D. Elmer, M.D. New York: W. A. Townsend. 1887.

Memorias Leidas en la 2a Serie de Sesiones de la Sociedad Española de Laringología, Otológica y Rinología 2o Fasciculo del Tomo I.

Diseases of the Lungs and Pleura, including Consumption. By R. Douglas Powell, M.D., London, Fellow of the Royal College of Physicians; Physician to the Middlesex Hospital and to the Hospital for Consumption and Diseases of the Chest, at Brompton; late Assistant Physician and Lecturer on Materia Medica at the Charing Cross Hospital. Third edition, rewritten and enlarged, with illustrations, including two lithographic plates; being Vol. XI. of Wood's Library for 1886. New York: William Wood & Co.

## Original Articles.

A CASE OF LAPAROTOMY FOR RECENT ADHESIONS OF THE INTESTINES TO THE ABDOMINAL PARIETES: RECOVERY.<sup>1</sup>BY GEORGE W. GAY, M.D.  
Visiting Surgeon, Boston City Hospital.

The following case is reported not so much on account of its favorable termination, as for the valuable hints it gives us for our guidance in the future. Laparotomy for recent peritoneal adhesions is not so common an operation, but that each case is of interest and value in helping to establish the best method of treatment. There comes a time in many of these cases when little benefit can be expected from medicine; how much may be expected of surgical treatment is to be determined only by the crucial test of experience, and I herewith contribute my mite for what it is worth, being fully aware that few, if any, conclusions can be drawn from a single case.

Although Frank R. was only fourteen years of age when he was taken sick, yet he weighed 150 pounds, and was strong and rugged in proportion. He worked in a cordage factory, where it was his business to carry bundles of bobbins weighing about fifty pounds. On the 27th of August, 1886, he got up in the morning feeling as well as usual. He went to stool, and contrary to his usual custom, he then passed an enormous quantity of flatus, and was immediately seized with a severe pain in the abdomen to the right of the umbilicus. The stool was free and easy, and the boy went to his work, but remained only about an hour on account of the severity of the pain. Soon after patient arrived home he was seen by Dr. W. H. Emery, who was obliged to give him three subcutaneous injections of morphia to alleviate the pain. The patient was fairly comfortable through the night but the next day the abdomen was tympanitic and tender all over. Morphia in moderate doses was required. Twenty-four hours later the tympanites had disappeared, and a bunch was discovered about three inches in diameter situated to the right of the median line just below the navel. It was prominent to touch and sight, movable, and tender. The treatment consisted mainly of morphia, fomentations, and poultices. The temperature ranged from 101° to 102°+, and the pulse from 92 to 100. Little vomiting. Bowels were constipated for first four days only; afterwards they were free, and at times rather too much so. The tumor increased for a week, when it had nearly doubled in size. It then slowly diminished, and the pain gradually disappeared.

Two months from the beginning of the attack (September 11th), I saw the patient with Dr. Emery. He had been quite free from pain for several days until that morning, when, with no apparent cause, it had returned and was more severe than ever. The patient had lost flesh and strength, was confined to the bed, had lost his appetite, and was beginning to vomit. Bowels were free and regular.

The seat of pain was confined to a spot about four inches in diameter, located to the right of, and a little below the umbilicus. While there was no distinct tumor to be felt, yet the abdomen was more prominent at that point than elsewhere. It was quite tender and the resonance was nearly or quite normal. There was

no fluctuation or edema, or enlarged veins. The affection evidently involved the deeper structures. The pain corresponded to the peristalsis of the intestines, and during their action the coils could be seen through the parietes. From the location and character of the pain I concluded that the intestines were attached to the abdominal wall, but that the adhesions did not encroach upon their calibre to any extent was evident from the fact that the stools were of normal frequency and quantity. A blister was applied to the affected spot, followed by poultices, and morphia was given under the skin in considerable doses to control the pain.

Despite this treatment the patient grew rapidly worse. Pain and restlessness increased, and were only partially relieved by large doses of morphia. Hiccough began to manifest itself, and all the symptoms tended toward destruction. On the fourth day of the relapse (September 14th), the patient's condition was so deplorable, that little benefit could reasonably be expected from a further trial of medical treatment, and the question of surgical interference demanded consideration and decision.

If the diagnosis was correct what would be gained by cutting into the peritoneal cavity and breaking up the adhesions? Would they not at once re-form, either in the same place or elsewhere? They do not, as a rule, after ovariectomy, why should they in the case under consideration?

Again, as it would be a difficult matter to separate all the adhesions of the various coils of intestines with each other, would not their contraction, as time went on, produce stricture with even more severe and obstinate obstruction than had yet taken place? With all due respect to the future it seemed to me that the present condition claimed the benefit of all our resources, and hence I advised an exploratory operation. The family physician strongly seconded the advice, and finally the parents consented. The patient was immediately removed to the City Hospital, and the operation performed under antiseptic precautions.

Either having been given and the boy surrounded by hot-water bottles, and covered well with blankets, an incision about two inches long was made on the median line just below the navel. The peritoneal cavity was opened, and a very little fluid escaped. The intestines were found to be adherent to the parietes over a space four or five inches in diameter corresponding to the sensitive spot on the surface. With the fingers the bowels were slowly and carefully separated from their unnatural attachments without doing unnecessary violence. The adhesions were quite firm in only one small spot, elsewhere they gave way readily. The hæmorrhage was of little consequence, and no ligatures were required. Two or three "sweepers" (small sponges) sufficed to free the peritoneum of blood, and the wound was closed by two sets of sutures; a continuous one for the peritoneum, and interrupted ones for the other structures. No drainage-tube was required. The standard dressing of the hospital, iodoform, absorbent gauze, and sheet-wadding was applied, and the patient put to bed.

He rallied well from the operation and had little vomiting, but he was restless and had some considerable pain through the night. The pain, however, was more controllable than previous to the operation. The next day there were marked signs of improvement. The bowels moved freely and much less morphia was

<sup>1</sup> Read before the Boston Society for Medical Observation, November 1st, 1886.

required. Two days after the operation the look of suffering and anxiety had disappeared and he was very comfortable. Took food well without nausea or vomiting. Bowels moved four times, not much pain. Opium was omitted on the third day, and he could lie on the right side, but not on the left without a dragging sensation. The wound was examined on the fifth day and found to be united. The superficial sutures were removed twenty-four hours later. They came out perfectly dry, their being no suppuration in their track. Tympanites gave no trouble after operation, the passage of flatus being free. The pulse and temperature came down to normal on the third day and has remained there. All through his convalescence the patient was troubled more or less with diarrhoea. Bismuth, calomel and opium did little good, but it improved greatly under the use of small doses of castor oil, and finally ceased.

Ten days after the operation there was a good deal of pain in the bowels for one day, which in the light of subsequent events I am inclined to ascribe to the peritoneal suture. In the course of a month the end of the deep suture appeared at the orifice of a small opening in the wound, and was removed. The silk had not been properly prepared, and hence it ulcerated out.

Six weeks after operation the wound was soundly closed, and the patient was up and about the ward feeling "first-rate," as he expressed it. Bowels regular, appetite good, and flesh and strength fast returning. The scar was an inch and a half in length, and apparently firm and solid. The indications at present are favorable for a complete restoration to health.

Speculations as to the future of this case are of little value, as it is impossible to say with any degree of certainty what may take place at the seat of the affection. It is possible that a stricture may develop, or new adhesions form followed by their characteristic symptoms. We all know the insidious nature of peritoneal bands and adhesions, that they may remain latent for a long time, and then without any apparent cause, develop a remarkable activity for mischief. Something of this kind may appear in this patient at almost any time, but the fact remains, that whatever the future may have in store for him, he has been rescued from a very dangerous condition by this operation, and possibly he may be again relieved by surgical measures should the occasion demand them.

Another point is worthy of notice in this connection and that is the following: If adhesions of the bowels to the abdominal walls can be destroyed mechanically, why may not those, which unite the coils of intestines with each other, or with the omentum? Extensive adhesions of the various pelvic and abdominal organs are frequently broken up in removing tumors from the peritoneal cavity, and with the exception of those involving the stump of a pedicle, or excised mesentery, they seldom re-form or give future trouble. A peritoneum which is recovering from a recent attack of inflammation is probably less susceptible to irritation, and hence bears operative procedures much better than it would in its normal state. The operation under these conditions may be looked upon as a secondary one, and hence freer from danger than a primary one would be. Should time prove these statements to be true, then it would seem reasonable to hope that benefit may be obtained by surgical measures in certain cases of peritoneal adhesions not amenable to other

methods of treatment. Observation and experience must determine the class of cases, if any there are, which may be relieved by operation. The extent of the attachments, their duration and strength, their location, the organs involved, the general condition of the patient, the urgency of the symptoms, are important points and require consideration. It would seem that in these days of antiseptics, when the peritoneum is no longer sacred to the eye or to the manipulations of the surgeon, the questions suggested above are worthy of further experimental observation.

## INJURIES OF THE SHOULDER.<sup>1</sup>

BY J. H. MCCOLLUM, M.D.

No attempt will be made in this paper to bring forward anything new in the treatment of injuries to the shoulder, but I have thought that it might be of interest to briefly report a few cases of dislocations which were under observation a much longer period than is usual, and in which the results were not as satisfactory as might be desired, and will also add three other cases of comparatively rare injury to the shoulder. These injuries are to be divided into fractures, dislocations, separation of the epiphyses and impairment of the function of the nerves supplying the part, particularly that of the circumflex. Contusions are only of importance from their liability to mask other and more serious injuries. The discussion of fractures about the shoulder-joint is beyond the scope of this paper. The remark is frequently made that a dislocation of the head of the humerus is a comparatively trivial injury, and that the result of the treatment is all that could be desired both by the patient and by the surgeon. Now while this is true in a certain proportion of cases, there are still many instances of properly-reduced and skillfully-treated luxations which are a source of annoyance to the surgeon and of trouble to the patient. It may be stated as a principle that the more muscular a patient the greater is the likelihood of trouble following the dislocation; the reverse may be said to be true of fractures. A word in regard to partial dislocations. When we take into account the shape of the glenoid cavity, the conformation of the head of the humerus, the powerful muscles which surround the joint and the laxity of the capsular ligament, it is extremely doubtful if these ever occur. How is it possible for the rounded head of the bone to remain upon the narrow rim of the glenoid cavity? It is true that the long head of the biceps may in some way prevent the head of the humerus from being thrown very far downwards or forwards, but if the head of the bone leaves the socket why should it not be called a complete dislocation? Concerning the subject of ancient dislocations so-called I have nothing to say; but the following account of the reduction of a luxation of four years standing, published in the "International Encyclopedia of Surgery," Volume 3, page 671, is unique and quite interesting. "Mr. B., a patient of Dr. Rice, a prominent physician of La Moille, Ill., met with an accident in November, 1877, by which he dislocated his shoulder. The patient, who was a farmer, failed, for some reason to obtain proper treatment, and applied after eighteen

<sup>1</sup> Read before the Boston Society for Medical Observation, November 1st, 1886.

months to Dr. Rice, who discovered the true nature of the injury and made patient efforts to reduce the luxation. After using as much force as he dared, this physician pronounced the case beyond cure and advised that no more hope be entertained of replacing the bone, as no nerves seemed pressed upon and as the arm was still measurably useful to the patient. In November, 1881, four years after the injury, the man was riding upon a horse and at the same time leading a blind horse behind him by a halter which he had carelessly wound about the hand of the arm dislocated four years before. While in this position the animal behind, becoming startled, suddenly jumped back, and Mr. B., who was unable to release his hand from the halter strap, was dragged forcibly backward, so that the traction was both backward and as he leaned further back somewhat upward. The shock of this sudden strain was so severe that the patient was taken to his house and placed in bed, it being believed by himself and others that he was seriously hurt. He slept for some hours, the pain not being severe, and upon awakening discovered that his arm was changed in some way. Further examination showed that the luxation had been reduced and the member soon recovered its mobility, and nearly its old strength."

In regard to the separation of the epiphyses it may be observed, that these injuries almost invariably do well if they are recognized. The local disturbance, however, is frequently so trivial that no physician is called, and the first thing noticed by the patient is a deformity, which, although comparatively slight, not only mars the symmetry, but also interferes to a certain extent with the motion of the joint. It is impossible in the greater proportion of cases, to make a correct diagnosis without ether.

CASE I. Miss A. B., forty-five years of age, while attempting to go down stairs lost her balance and endeavoring to save herself, seized one of the balusters with her right hand causing a dislocation of the humerus into the axilla. When the patient was seen, which was about one hour after the injury was received, she complained of pain near the joint, which was immovable and very sensitive to the touch. As the patient was very fleshy and as the bones were quite small, the deformity was very slight, so slight that a casual glance would not have detected any difference in the contour of the shoulders. There was no numbness of the fingers, and in fact, with the exception of the severe pain when any motion, passive or otherwise, was attempted, there was nothing that would indicate any severe injury of this joint. The patient was etherized, when it became evident by the application of the test of Dugas that there was dislocation of the head of the humerus into the axilla. The reduction was accomplished with very little difficulty. A pad was placed in the axilla and an immovable apparatus adjusted. There was considerable constitutional disturbance as is nearly always the case in these injuries. The apparatus was kept on the shoulder for two weeks, at the end of which time slight passive motion was commenced and continued at intervals of a day for three weeks. There was no difference in the appearance of the joints, but the motion was very much limited in the injured one. At the expiration of four years, the patient was unable to place the hand easily upon the top of the head, and in fact, has never fully recovered the use of the joint.

CASE II. J. T., a man fifty-eight years of age, was riding in a stage-wagon when the axle broke and the vehicle was overturned and the patient was at the bottom of a confused mass of humanity. The exact manner in which the accident was caused it is impossible to state. An eminent surgeon of New Hampshire was called, who administered chloroform, diagnosed a downward dislocation of the humerus which he easily reduced. The patient came under my observation twenty-four hours after he received the injury. When seen there was considerable swelling about the joint and very great constitutional disturbance. As the patient had travelled over one hundred miles the apparatus had become disarranged. Adhesive plaster, wedged-shape pad and bandages were applied, so as to render the joint immovable. Opium was administered and the patient placed in bed. At the end of two weeks the apparatus was removed and passive motion was used every day. There was no wasting of the deltoid. The man never fully recovered the use of his arm. Up to the period of his death, which occurred five years later, he was unable to raise his arm at more than a right angle to the body. Rotation of the humerus, however, was comparatively good. There was more or less neuralgic pain, however, as long as the patient lived. There was a slight prominence in the anterior portion of the joint, the cause of which has never been satisfactorily explained. Hamilton in his work on dislocations and fractures, speaks of this deformity as of very frequent occurrence after dislocations, and attributes it to the injury of the long head of the biceps; but as the long head of the biceps is comparatively rarely injured in dislocations it would seem as if this conclusion was erroneous. Other observers consider that it is due to the injury of the spinatus muscles and probable thickening of the capsule.

CASE III. A man, about forty years of age, was standing on a ladder about eight feet from the ground, when the foot of the ladder suddenly slipped and he was precipitated from this height, and put out his left arm to save himself, thereby causing an axillary dislocation. When seen, which was about three hours after the accident, there was a deformity characteristic of this dislocation. As the man was of a very spare habit, the diagnosis could be made at a glance. The patient was etherized, and the dislocation was easily reduced by means of placing the heel in the axilla. A pad was placed under the arm, which was firmly bandaged to the side. There was very little constitutional disturbance, and the subsequent swelling and inflammation of the joint were very slight.

The bandages were removed, and passive motion commenced at the end of two weeks. At the expiration of six months, although the motion of the joint was comparatively good, the man did not have free and perfect use of the arm. There was no change, however, in the appearance of the injured joint, as compared with the other. The limited amount of pain in this case is of interest when compared with the severe pain in the previous cases.

CASE IV. J. G., a man about fifty years of age, standing at the door of a saloon, was suddenly pushed down two steps, causing an axillary dislocation of the right humerus. It was impossible to discover just how he received this injury. When the patient was seen, he was somewhat under the influence of alcoholic stimulants. There was comparatively slight deformity,

but as there was great pain and tenderness about the joint, sufficient to render an examination without an anæsthetic impossible, he was etherized. A dislocation diagnosed and easily reduced. The usual apparatus was adjusted and kept in place for ten days. The patient stated that four years previous, he had received a similar injury to his arm. At the end of three weeks, at which time the patient passed from observation, there was comparatively good motion of the joint.

**CASE V.** A. B., while in a state of intoxication, fell on the sidewalk, and in some way dislocated his shoulder. When the patient came under observation, which was three days after the receipt of the injury, there was great swelling about the joint, so much as to mask the characteristic deformity, accompanied with very severe pain and marked constitutional disturbance. The man was etherized, and the dislocation reduced. Edema of the hand and numbness were present in a marked degree. At the end of a week the swelling was very much diminished, but, unfortunately, at this time the patient disappeared.

**CASE VI.** A woman, thirty years of age, was knocked down by the horses of a street-car, and received an injury of the right shoulder-joint. The patient was seen about an hour after the accident. There was loss of power, numbness of the hand, and severe pain in the shoulder. The deformity of the joint was not very marked, but on account of the pain, a satisfactory examination could not be made without an anæsthetic. The patient was placed under the influence of ether, and the diagnosis of a downward dislocation made. This was easily reduced, and the usual apparatus adjusted. At the end of two weeks passive motion was commenced. In this dislocation, as is frequently the case, there was wasting of the deltoid, and also marked inflammatory thickening of the capsule of the joint. At the end of six months the movement of the joint was much impaired, although there was very little pain. A slight prominence on the anterior aspect of the joint was very evident. The deltoid muscle was considerably smaller than the one on the opposite shoulder. At the end of a year there had been very little improvement either in the appearance or motion of the joint. At the end of four years the motion was not perfect, but it had improved slightly. The patient could now place the hand upon the vertex, but she was unable to place the upper part of the arm in contact with the side of the head. There was considerable loss of symmetry. For all usual avocations, however, this arm was nearly as useful as the other.

**CASE VII.** A. B., a man thirty-five years of age, fell on an icy sidewalk, and while trying to save himself by grasping the railing of a fence, caused a downward dislocation of the left humerus. The patient was seen about one hour after the accident. He was etherized, and the dislocation easily reduced. The usual apparatus was applied, and at the end of two weeks was removed. There was very little constitutional disturbance in this case, and the swelling and pain in the joint were comparatively trifling. At the end of four weeks there was a fair amount of motion in the joint, but there was very marked deformity on the anterior portion of the shoulder. Allusion has been made to this deformity in Cases II and VI. So great was this enlargement, that a superficial observer might mistake it for a dislocation. The head of the bone in this case

was certainly in the glenoid cavity, because the motion of the joint, although limited, was perfectly free and unembarrassed. The hand could be placed upon the opposite shoulder, and the inner elbow brought in contact with the thorax. A rule placed upon the arm projected about three-quarters of an inch from the acromion. At the end of three years the deformity had somewhat diminished, but the motion of the joint was still quite limited. Without multiplying cases, it has been shown, I think, that a dislocated shoulder-joint rarely, if ever, fully recovers its functions. It may be of interest, before finishing this subject, to allude to a remarkable result of a dislocation of the humerus, described by Baron Larrey in "Cooper's Surgical Dictionary," page 314: "Among the curious anatomical preparations (says he) which I saw in the cabinet of the University of Vienna, there was a dissected thorax, shown to me by Professor Prokaska, in which the whole orbicular mass of the head of the right humerus, engaged between the second and third true ribs, projected into the cavity of the chest. This singular displacement was the result of an accidental luxation, occasioned by a fall on the elbow, while the arm was extended and lifted from the side. The head of the humerus, after tearing the capsular ligament, had been violently driven into the hollow of the axilla, under the pectoral muscles, so as to separate the two corresponding ribs and pass between them. The diameter of the head of the bone surmounted this obstacle, and penetrated entirely into the cavity of the thorax, pushing before it the adjacent portion of the pleura. Every possible effort was made in vain to reduce this extraordinary dislocation. The urgent symptoms which arose were dissipated by bleeding, warm bathing, and anti-phlogistic remedies. The arm, however, remained at a distance from the side, to which condition the patient became gradually habituated, and after several years of suffering and oppression, he at length experienced no inconvenience.

"The patient was about sixteen or seventeen when he met with the accident, and he lived to the age of thirty-one, when he died of some disease which had no connection with the dislocation. His physicians were anxious to ascertain the nature of this curious case, of which they had been able to form only an imperfect judgment. They were much surprised to find, upon opening the body, the head of the humerus lodged in the chest, surrounded by the pleura, and its neck closely embraced by the two ribs above specified. They were still more astonished to find, instead of a hard, spherical body covered with cartilage, only a very soft, membranous ball, which yielded to the slightest pressure of the finger. The cartilage and osseous texture of the whole portion of the humerus, contained within the cavity of the chest, had entirely disappeared. Of the humerus, there only remained some membranous rudiments of its head, and a great part of these seemed to belong to the pleura costalis."

#### WASTING OF THE DELTOID.

**CASE I.** J. G., a man about forty years of age, fell on the sidewalk and injured his right shoulder. About three weeks after the injury he applied for treatment. At this time there was considerable pain on motion of the joint, and its movement was very much embarrassed. In order to prevent any possible error in diagnosis, the man was etherized, and a very careful examination was made. No fracture nor dislocation

could be detected. There was considerable diminution in the size of the deltoid muscle. A stimulating embrocation was advised, together with frequent champing of the joint. At the end of a week after the commencement of treatment, the thickness of the deltoid had diminished considerably. Electricity was now advised, in the form of the interrupted current. The man was under observation about eight weeks, at the end of which time the condition of the deltoid had not improved. There was complete paralysis of this muscle.

#### SEPARATION OF THE UPPER EPIPHYSIS.

This is spoken of by the authorities as a very rare accident, and were it not for the fact that a most careful examination had been made, I should be inclined to think that there had been an error in diagnosis.

CASE I. B. D., a boy, twelve years of age, was forcibly compressed between a high-board fence and the tail-board of a wagon, the wagon being brought in contact with his left shoulder. He was seen about one hour after he was injured, at which time there was a deformity in the anterior portion of the shoulder, just below the coracoid. When one hand was placed upon this projection, and rotation, with a slight upward pressure, made with the other, a peculiar, soft crepitus could be felt; when rotation was made outwards, this prominence moved slightly, but seemed to pass through the arc of a comparatively small circle. The forearm could be flexed and extended, both pronated and supinated without pain. Slight pressure downwards and backwards caused this deformity to disappear. There was comparatively little pain about the joint, so that a satisfactory examination was made without ether. An Ahl's shoulder-cap splint was moulded to the part, with a soft pad so adjusted as to bring firm, yet moderate pressure over the deformity. The arm was bandaged to the side. At the end of two weeks the splint was removed, in order to make an examination. Slight passive motion did not cause a recurrence of the deformity. The splint was re-adjusted, and at the end of ten days was removed. Slight passive motion was employed, the deformity did not return, and the patient had ultimately perfect use of the joint.

CASE II. A girl about six years of age, of a somewhat strumous diathesis, was forcibly thrown against the side of a house, and received an injury of the left shoulder. She was seen about an hour after the accident. There was slight swelling of the shoulder, and the characteristic deformity, to which allusion has been made in the preceding case, was observed. Owing to the slight amount of pain, an examination was possible without ether. Shoulder-cap splint was adjusted and kept in position three weeks. Passive motion was now used for a short time. The girl recovered perfect use of the joint, and there was no lack of symmetry in the shoulders.

My reasons for considering that the two preceding cases are examples of this injury, rather than fractures, are the peculiar appearance of the deformity, which is a distinct prominence just below the coracoid; a peculiar, soft crepitus (if I may be allowed the term), which is entirely different from the rough, grating feel, characteristic of a broken bone; the comparatively trivial pain, which rendered satisfactory examination of the joint possible without etherization; and the fact that at the end of three weeks, the union of the separated parts seemed to be perfectly firm.

### Reports of Societies.

#### BOSTON SOCIETY FOR MEDICAL OBSERVATION.

MEETING, November 1st, 1886. DR. A. N. BLODGETT in the chair.

DR. G. W. GAY read a paper upon

#### A CASE OF LAPAROTOMY FOR RECENT ADHESIONS OF THE INTESTINES TO THE ABDOMINAL PARIETES: RECOVERY.<sup>1</sup>

DR. RICHARDSON said that the paper was suggestive in bringing forward the question, What circumstances justify laparotomy? In some cases there can be no doubt, but in a large proportion the operation has to decide a doubtful point, and this is especially true of cases of obscure intestinal disease accompanied by obstruction. The severe cases of abscess about the vermiform appendix would be excluded from the list of doubtful cases. The speaker thought the practice of opening the abdomen to satisfy curiosity as to the disease and when nothing was to be gained further was altogether too common; he was sure that the success of over twenty laparotomies in his practice was such as to tempt him to perform the operation perhaps too freely. In the case reported, had the result been other than successful, it seemed to him the operation was justifiable when the percentage of mortality in similar cases left alone, was considered. While advising delay in operating in such cases of obstructive disease as did not present grave symptoms, yet one must be on his guard against delaying too long; in his own experience the delay of a few days in the case of a woman of seventy years, allowed her to become so exhausted that she died twelve hours after resection of the intestine, although the operation itself was perfectly successful, the joint holding both air and water.

DR. GAY said that the point on which he especially wished discussion was the one of most importance to the patients, that is, how much benefit is it to have peritoneal adhesions broken up. In cases of idiopathic peritonitis the patient may live for a long time suffering from adhesions, can he be cured by operating and breaking these bands? The question seems to turn upon the point as to whether these bands will re-form. It is known that they may not when only covering a comparatively small space. May not the same be true of very extensive ones? The limit of successful operations seemed to be between the two extremes of acute peritonitis, where the patient died of shock, and very severe cases where the patient was collapsed, and in the cold and sweating stage. He had operated in four cases when collapsed, but always with fatal result.

DR. BLODGETT asked the reader if the location of the intestinal adhesions in relation to their distance from the stomach would have any important bearing upon the result of treatment by operation? that is, if adhesions situated at a point upon the bowel nearer to the stomach would of necessity increase the perils of the patient either in the way of immediate shock during or after the operation, or would induce less favorable conditions during convalescence from the operation?

DR. GAY stated that the higher up the adhesions

<sup>1</sup> See page 25 of this number of the Journal.

are situated the more primary shock there is, and the greater liability of complications during convalescence.

An operation near the stomach is more dangerous than the same procedure nearer the cœcal end of the intestine.

Dr. RICHARDSON alluded to the manner of suturing the abdominal wound.

Dr. GAY said that in this case he had followed his usual method. He employed it from theoretical reasons at first, but always having had good success continued it.

Dr. FITZ inquired as to the ease with which the adhesions were broken down.

Dr. GAY said that there was but one spot that gave any trouble, although it was not always easy to find the dividing line between the adhesion and the bowel. He did not use the knife.

Dr. J. H. McCOLLOM read a paper upon

#### INJURIES OF THE SHOULDER.<sup>2</sup>

Dr. A. H. NICHOLS thought that the cases presented of uncomplicated shoulder dislocation, followed by long-continued after-effects, should be considered as rare exceptions; and that the surgeon would still be justified in predicting that the patient would regain the substantial use of the limb within a few months. The period intervening between the inception of the injury and the reduction, is an important element in considering the prognosis. Where this interval amounts to several days, the functions of the limb are less speedily resumed; possibly owing to the greater force necessary for accomplishing reduction under such circumstances. Hamilton mentions two years as the longest period of continuance of muscular ankylosis and weakness following a dislocation promptly reduced.

The paralysis and loss of symmetry, or atrophy of the muscles, particularly of the deltoid, cannot always be referred to the effects of muscular contusion or rupture; for these same phenomena have been observed when the arm has been subjected to violent extension only, where there existed no suspicion of dislocation or muscular injury. Such symptoms would seem to be most satisfactorily explained upon the theory of rupture of the circumflex nerve.

Dr. GAY said, one important point is suggested by Dr. McCollom's paper, and that is the question of a permanent injury. Every medical expert is pretty certain to be asked this question: "In your opinion, Doctor, will the patient ever have as good an arm, as before the accident?" In other words, is the injury a permanent one? The cases reported here would indicate that the question cannot be answered by either a yes or a no. It should be qualified somewhat as follows: The arm, which has been dislocated at the shoulder, will probably never be quite as free in its movements in certain directions as it was before the accident, but for most of the ordinary uses of the arm it will be as good as ever it was. While the effects of the injury may never wholly disappear, yet it is by no means permanent, in the sense of total or even partial disability to fulfil all the ordinary functions which may be required.

Another feature of these cases is, that improvement continues to manifest itself for a long time after the ordinary convalescence. This is particularly true of joints. At the end of six months, or even a year, the patient may experience a good deal of trouble in con-

sequence of the injury, but that is no good evidence that they will never recover. Chronic joint affections oftentimes require years for a complete, or even a fair recovery. Hence it behooves the expert to be slow in pronouncing any doubtful case of injury to joints a permanent one, in the sense of permanent impairment of the ordinary functions of the limb.

Dr. McCOLLOM said that one of the patients, seen six years ago, was still unable to put the hand to the head. The case was interesting because at the time it was a legal matter and the question of how much disability was simulated arose. The case having been long settled, that element was removed.

Dr. BLODGETT remarked that he had hoped to hear some allusion by the reader to a condition of the shoulder which has at times presented itself in his practice. He alluded to the habitual and recurrent dislocation of the shoulder after a primary injury of greater or less severity, by which the head of the bone was in the first instance dislocated into the axilla.

One such case has been seen by Dr. Blodgett, in which a primary dislocation of the shoulder fully recovered as far as the ordinary treatment of such cases is concerned, but in which any unusual exertion or incautious movement is liable to be followed by an immediate and complete displacement of the head of the humerus into the axilla. The patient was so accustomed to this accident, that he was not alarmed by its occurrence, but sought surgical aid, giving directions how the dislocation was to be reduced; and on the accomplishment of the reduction the patient quietly put on his coat and departed, to be seen no more until a recurrence of the dislocation made it necessary that he should again seek surgical aid. The very trifling amount of disturbance caused by the dislocation of so important a joint as that of the shoulder may well excite surprise, and the comparatively little disability following this injury in most cases is remarkable.

Dr. E. O. OTIS stated he had a patient in whom the accident had occurred several times.

Dr. STRONG said that he had had under his care a woman of about seventy years who could at will produce complete downward dislocation of the shoulder but could not get it back without medical aid. He had reduced it four times.

Dr. MARION had reduced one shoulder three times, and knew that others than himself had reduced it. He inquired as to the necessity of placing a pad in the axilla.

Dr. McCOLLOM said the pad made the patient more comfortable and certainly diminished the chances of the head of the humerus slipping out.

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— Prof. F. S. Dennis, of New York, while crossing the Atlantic, made some experiments for testing the purity of air one thousand miles from land, in the line of those by Tyndall upon the mountain air of Switzerland. In one capsule of sterilized gelatine exposed in the state room upon the main deck of the steamer, within eighteen hours over five hundred points of infection had developed. Two capsules exposed in a similar manner in the cabin on the promenade deck, where the circulation of air was free, showed five or six points each ten days afterwards. A capsule exposed over the bow was entirely uncontaminated.

<sup>2</sup> See page 26 of this number of the Journal.

## NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, December 20th, 1886.

DR. FRANK GRAUER read a paper on

## THE PATHOLOGICAL ANATOMY OF SCARLATINAL NEPHRITIS.

Although a great deal had been done within the past ten years in the pathology of scarlatinal nephritis, he said, there still existed differences of opinion as to the minute changes which occur in the various forms of the trouble. Friedländer had classified the different forms met with post-mortem, under three types, namely, initial catarrhal nephritis; large, flabby, hemorrhagic kidney; and acute glomerulo-nephritis, or nephritis post-scarlatina.

The initial catarrhal nephritis was the form that we met with in the first week of the disease; generally accompanying the exanthema, lasting from a few days to a week, and then gradually disappearing. It rarely led to death, and was only recognized by a chemical examination of the urine; in which were to be found a slight amount of albumen and mucus and hyaline casts—more rarely red and white blood-corpuscles, renal epithelium, and granular casts. The symptoms very rarely pointed to kidney trouble, and if any such were present, they were liable to be overlooked.

In this affection the kidneys were slightly enlarged and hyperæmic, the capsule stripped off very readily, and in a cut-surface there was some thickening of the cortical substance, with more or less loss of striae, while the glomeruli appeared as red dots. Microscopical examination showed swelling and granular degeneration, with desquamation of the epithelium, especially that lining the convoluted tubules. Hyaline and granular casts were often found in the straight tubes, and, where the process had been more severe, the beginning of a round cell infiltration in the interstitial tissue. It was only in those cases in which children died from the sequelæ or complications of scarlatina, such as diphtheritis and broncho-pneumonia, that we were able to notice the changes referred to. It might be supposed that these changes were indications of a parenchymatous inflammation, but Friedländer had pointed out the following differences: parenchymatous inflammation, according to Virchow, leads to fatty degeneration of a cell, with disturbance of its function; and this process does not occur in the epithelial cells lining the uriniferous tubules in the affection in question. Then, on the other hand, we have a cellular proliferation in initial catarrhal nephritis which does not, as a rule, occur in parenchymatous inflammation of the kidney.

The second form of nephritis, characterized by large, flabby, hemorrhagic kidney, was not as common as either of the other two forms, and was met with in only twelve out of two hundred and twenty-nine cases in which Friedländer made autopsies. It generally occurred from the first to the fourth week of the disease, and ran a rapid course. In some cases the urine was normal up to within twenty-four or forty-eight hours of death, and œdema rarely occurred. This form of nephritis was generally found in those cases accompanied by extensive angina and diphtheritic inflammation.

The kidneys were found to be enlarged and softened, and the cortical substance was thickened, and greyish-red in color. There was complete loss of the striae,

and the glomeruli, as a rule, were invisible. The cortex was studded with ecchymoses and large hemorrhagic infiltrations. Microscopically, the tubules were seen to contain the various forms of casts, red blood-corpuscles, degenerated and desquamated epithelium, and an increase in the connective tissue characterized by a round cell infiltration situated mainly around the glomeruli and between the convoluted tubules. Besides the above changes, small abscesses were often found in the cortical substance, in which, by means of one of the aniline dyes, it was not infrequently possible to detect micrococci. Whether these microbes had any distinct relation with the etiology of scarlatina or diphtheritis, or whether they were merely one of the forms of micrococci commonly found in acute abscesses, Dr. Grauer was not able to state. This form of nephritis was not characteristic of scarlatina, as it had been found in some forms of primary diphtheritis; and Friedländer regarded it as a septic inflammation of the kidney.

The third variety, acute glomerulo-nephritis, was almost characteristic of scarlatina, and rarely occurred in other diseases. Dr. Grauer had met with it once, however, in a case of heart trouble. It generally occurred in the third or fourth week of the disease, when the patient was convalescing. Usually without other symptoms, œdema was noticed about the eyes and lower extremities, and an examination of the urine showed evidences of albuminuria. The urine was also turbid, diminished in quantity, and of a high specific gravity.

Microscopical examination showed hyaline casts, renal epithelium, red blood-corpuscles, and, occasionally, epithelial and blood casts. While in some cases recovery promptly took place, in others the process was progressively unfavorable. The œdema increased, fluid accumulated in the peritoneal, pleural and pericardial cavities, the urine kept on diminishing and became bloody, and the albuminuria became more marked. Microscopic examination now showed it to contain a large number of red blood-corpuscles, pus and renal epithelial cells, and hyaline, blood, granular and epithelial casts. Then came uræmic symptoms, with anuria and death. Friedländer found this form of nephritis in forty-two out of the two hundred and twenty-nine cases that he examined.

Klebs was the first to point out that the glomeruli were affected in scarlatinal nephritis. On making fresh sections of the kidney with a double knife, he found that the glomeruli were anæmic, and on washing out the same in water they became dark and cloudy. Microscopically he noticed small irregular nuclei imbedded in a granular mass, and within the capsule proliferation of the capsular epithelium; while the capillaries were almost completely covered by a mass of nuclei. On tearing apart the glomeruli with needles he found the glomerulo-epithelial cells more adherent than normal, and varying in shape. Occasionally some of the cells were found to be fatty. Situated between the glomerulo-epithelial cells and the walls of the capillaries were small irregular nuclei, and from their shape and appearance he came to the conclusion that they were nuclei of the proliferated connective tissue cells, and that they produced a compression of the capillaries, which caused the diminution and suppression of the urine. In this Dr. Grauer thought he was probably mistaken, as there was no evidence of connective tissue situated between the

glomerulo-epithelium and the walls of the capillaries in a normal kidney.

Having devoted some time to the discussion of the microscopical anatomy of the glomeruli, in regard to which he said there still existed some differences of opinion among histologists, he stated that Klein, in twenty-five autopsies of those who had died of scarlet fever, observed the following changes: increase of nuclei, probably covering the glomeruli, and hyaline degeneration of the elastic intima of the minute arteries, especially the afferent arterioles. The intima of these vessels in places appeared swollen up into cylindrical or spindle-shaped hyaline masses, which produced a distinct narrowing of the lumen of the vessels. In connection with this he observed a similar hyaline degeneration of the capillaries of the Malpighian corpuscles in the course of which greater or smaller parts of the glomeruli became obliterated. The degenerated parts were at first hyaline, and later on assumed a more fibrinous aspect; Bowman's capsule at the same time becoming thickened. A third change that he observed was multiplication of the nuclei of the muscular coats of minute arteries and a corresponding increase in thickness in the walls of these vessels. The changes in the glandular part of the kidney he thought were indications of a parenchymatous nephritis, and he did not think that the anuria and uræmic poisoning were due to compression of the vessels of the glomeruli, but to the changed state of the arteries.

Having referred to the observations of Ribbert and Langham, he went on to describe his own researches, based upon nine cases of glomerulo-nephritis that occurred at the *Algemein Städtisches Krankenhaus* in Berlin, and conducted at the pathological laboratory of Dr. Carl Friedländer. He gave the results of the post-mortem examination in each case, and then went on to say that in glomerulo-nephritis, the kidneys were enlarged and hyperemic. There was no loss of cortical striae, and in some cases the cortex might be somewhat thickened. The glomeruli were pale, prominent, and more or less enlarged.

As regards the microscopical examination, the uriferous tubules were apparently normal. There might be some evidence of a slight parenchymatous inflammation, and the epithelium might be somewhat swollen, while occasionally a cast in the tubules could be seen. The glomeruli were bloodless. Very rarely, a red blood-corpuscle could be found in the lumen of a capillary. When examined with a low power, the glomeruli were found larger than normal, and covered with a mass of nuclei. With an immersion-lens, the following changes could be noticed in the capillaries: In some, the only change was a thickening of the endothelial layer, which became more granular. In others, the lumen of the vessel was filled with a rich, nuclear protoplasm. Dr. Grauer's opinion was that these nuclei were the nuclei of proliferated endothelial cells, rather than the nuclei of white blood-corpuscles, as held by some authorities. They were, he claimed, smaller and darker than the latter; and he had also seen an endothelial cell swollen and projecting into the lumen of the capillary, and completely obliterating its calibre.

With reference to the glomerulo-epithelium, he had noticed swelling and proliferation. It was still considered by some that it was the proliferation of the glomerulo-epithelium that produced a compression of

the capillaries, and thereby obstructed the circulation; but in all the specimens examined by Dr. Grauer, although proliferation was present, the loops, as a rule, were larger than normal, showing that the pressure was from within, and not from without. Proliferation of the capsular epithelium, as described by Klebs, was not observed in eighty-two sections that he examined, although he had noticed it in other forms of scarlatinal nephritis.

Hypertrophy of the left ventricle of the heart was always present in cases of glomerulo-nephritis, as first pointed out by Friedländer, and it was due to the heart's being compelled to do more work, on account of the obstruction in the Malpighian tufts. In conclusion, he expressed the opinion that the term glomerulo-nephritis ought to be limited to those affections in which there is an obliteration of the loops of the capillaries, and not applied to those in which there is only a proliferation and desquamation of the glomerulo- and capsular epithelium, as this change has been noticed in all forms of chronic nephritis. After reading his paper, Dr. Grauer exhibited, under the microscope, a number of specimens illustrating some of the points referred to in it.

DR. A. FLINT remarked that Dr. Grauer was worthy of much commendation for the careful manner in which he had studied this subject. Our knowledge of glomerulo-nephritis was of comparatively recent origin, and was chiefly due to the improved microscopes and improved methods of staining now at the command of the investigator. He had lately been much impressed with the immense advantages of the modern lenses over the most perfect ones formerly in use while making some examinations of tubercle bacilli.

One of the questions of interest which was suggested by the paper was that relating to death from so-called uræmic poisoning. This was a live question, and, personally, he had very decided convictions in regard to it, which were considerably at variance with the views which he had formerly held. From the investigations which he had made during the last few years concerning excrementitious substances, he now entertained doubts as to whether urea was, after all, a poison. His experiments had convinced him that water was formed *de novo* in the system from a combination of the elements composing it, so that, under these circumstances, water itself was an excrementitious product, and yet it was certainly not a toxic agent. As to the cause of death in these cases of scarlatinal nephritis, which were commonly attributed to uræmic poisoning, he believed that the parenchymatous changes which were noted in the patient after death were due very largely to the excessive pyrexia of the scarlet fever. The special direction which these parenchymatous degenerations took in different infectious fevers were governed, he thought, by the special cause of the disease, each affection having its own peculiar *contagium vivum*, with its specific mode of action in the system. In scarlatina, there was a strong tendency for trouble to locate in the kidneys, and in scarlatinal nephritis, the urine was diminished in quantity and concentrated, and contained a large amount of albumen, because these organs became choked with excrementitious matter, and could no longer be washed out by the water derived from the Malpighian tufts.

DR. ISAAC E. TAYLOR said that in the cases to which Dr. Grauer had devoted special attention, death had occurred in from four to eight weeks. He should

like to inquire what would be the condition of the kidneys in those cases which terminated fatally within thirty-six hours from the onset of the attack of scarlatina. In this connection, he related several cases which had occurred in his own experience.

DR. L. J. McNAMARA said that if there was swelling of the endothelial cells, filling up the calibre of the tubules, as described by Dr. Grauer, it would overthrow the theory formerly entertained, that these tufts of capillaries are composed of nothing but epithelial cells without nuclei. Or, possibly, the condition might be explained on the hypothesis of the existence of two sets of cells, one variety being nucleated, and the other not.

DR. DANIEL BROWN thought that the virus of scarlatina found a soil peculiarly fitted to it in the skin, the intestines, and the lining membrane of the glands, and that, by its effect upon these structures, an irritation of the nervous system was set up that was sufficient to account for the class of cases referred to by Dr. Taylor. It was very much as though the child died from shock. Scarlet fever had the effect of arresting almost all the secretions of the body, and, therefore, in his treatment he was in the habit of employing such remedies as tend to stimulate the secretions. By pursuing this course, he had found that the temperature was kept down, and that the danger of unpleasant sequelae was greatly diminished.

DR. J. W. S. GOULEY said that a number of years ago, during several epidemics of scarlatina at the Nursery and Child's Hospital, it had been somewhat surprising to him, as well as to Dr. Elliott, who was one of the attending physicians, that so many of the children were affected with nephritis; and the point that interested him most was, that of the many who recovered, the larger number recovered promptly and completely. He should like to inquire, therefore, whether it was not rare for chronic nephritis to result.

The President, DR. LEALE, said that some fifteen years ago, when he was attending physician for diseases of children at one of the largest dispensaries of the city, he was struck by the large number of cases of dropsy that presented themselves; and he found that the great majority of these were in children who had passed through an attack of scarlet fever without any medical attendance. An interesting point that he had noticed in examining the urine from day to day in cases of scarlatina was that, although for a time there might be no sign of kidney trouble, it was a fact that albumen appeared in it almost invariably on the twenty-first day. It thus followed close upon the desquamation of the skin. When scarlatinal dropsy was moderate in amount, there was usually little difficulty in promptly relieving the patient.

DR. GRAUER said that in the cases referred to by Dr. Taylor, in which death occurred within twenty-four or forty-eight hours, there was complete suppression of urine, and that the condition found after death was acute glomerulo-nephritis. In reply to Dr. Gouley's question he stated that while in the majority of cases the children undoubtedly recovered promptly, in a certain proportion of cases the kidney trouble became chronic. He had at present, under observation, a child of eight years, who had an attack of scarlet fever two years ago, and who now, as a result was suffering from chronic interstitial nephritis, with bloody urine.

#### PERFORATION OF THE APPENDIX VERMIFORMIS: LAPAROTOMY.

DR. JOSEPH D. BRYANT presented a vermiform appendix which he said he had removed from a patient last summer. The case occurred in a neighboring town, and was seen in consultation with Drs. Janeway and W. T. Bull. The cause of the illness, which occurred in a gentleman, forty-five years of age, previously in good health, was entirely unknown.

Almost fifty hours before Dr. Bryant saw him he was suddenly attacked, without appreciable cause, with a moderately severe pain in the epigastrium region. He attached but little importance to it, and, attributing it to a mild diarrhoea, from which he had been suffering for ten or twelve hours previously, took a gentle cathartic, which afforded him marked relief. He noticed no pain or tenderness in the right iliac region.

About fifteen hours afterward the pain became more severe than at the outset; but was still located in the epigastrium. The family physician was now called in and he prescribed another cathartic, followed by an anodyne. The medicine did not move the bowels, and the pain increased; while the abdomen now became tympanitic, and nausea, with occasional vomiting, set in. The vomiting, however, was not characteristic of any special morbid process. Enemata were administered, but served to dislodge only a few small scybulous masses.

The condition of the patient became gradually worse, and Dr. Janeway was called in consultation; arriving about forty-five hours from the first attack of pain. Five hours later he was seen by Drs. Bryant and Bull, and the following facts were noted: The patient's perceptions were intact, although somewhat blunted by the previous use of opium. Persistent, though not severe, nausea existed, with occasional vomiting. The vomited matter had no distinctive characteristics. The abdominal walls were extremely distended, with tympanitic resonance well marked in all situations. Hepatic dulness normal. Tenderness on pressure was general, but best marked at the lower portions of the abdomen. No isolated point of special tenderness was discovered, and all pain was still referred to the epigastric region. The abdominal walls were too tense to render deep palpation of any service as a diagnostic measure, and digital rectal examination disclosed nothing abnormal. Temperature 102°, pulse 108. Respiration increased in frequency, but painless. Bowels obstinately constipated, with an absence of all intestinal sounds, and of appreciable vermicular movements. The thighs were flexed. Urine drawn off with a catheter.

As the result of this examination the consultants believed, (1) that a more or less general peritonitis existed; (2) that it was secondary to either obstruction of the intestinal tract or perforation of it; (3) that immediate measures of relief must be taken to insure a chance for recovery; (4) that medicinal measures afforded no such chance; (5) that an exploratory incision of the abdomen was warranted.

The patient having willingly given his consent, the operation was performed in as thoroughly an antiseptic manner as the contingencies of the case would admit. As soon as the peritoneum was incised a very small amount of thin, non-offensive, reddish-colored fluid escaped. The small intestines were extremely distended, and their serous surfaces were deeply cou-

gested. The sigmoid flexure (which extended across to the right iliac fossa) presented similar appearances. In some situations evidences of recent lymph were seen. No characteristic local indications of an obstruction could be found anywhere. The intestines at and about the right iliac fossa presented the evidences of a more profoundly inflamed condition, and for this reason the caput coli was closely examined. It, too, presented appearances similar to the contiguous intestines.

The vermiform appendix was then sought for and found, but with considerable difficulty. It arose from the inner and peritoneal surface of the cecum, was about two and one-half inches in length, was covered entirely by peritoneum, and was unattached, except at its origin from the cecum. It was standing nearly erect between the intestinal folds. It was swollen and darkly congested, and presented somewhat the outline of a distended leech. At its base three perforations were found; two of which were each about the size of a small pea, while the other was of somewhat smaller size. In one of the openings was a small mass of fecal matter. At and around the base of the appendix a considerable amount of the reddish non-offensive fluid mentioned was found, and it was mixed with flakes of recent lymph.

The appendix was tied at its base, below the points of perforation, with a strong silk ligature, and removed with scissors. The abdominal toilet was performed with antiseptic sponges, and a warm solution of bichloride of mercury ( $\frac{1}{1000}$ ). A drainage-tube was introduced, and the abdominal wound closed and dressed antiseptically. The patient rallied from the immediate effects of the operation, but died twelve hours afterwards from exhaustion.

In concluding his report Dr. Bryant called attention to the following special points of interest in connection with the case: (1) The preceding diarrhoea; (2) the absence of distinctive pain at the seat of the lesion; (3) the location of this pain in the epigastric region; (4) the comparative quiet following the first attack; (5) the existence of normal hepatic dulness; (6) the extension of the sigmoid flexure to the right iliac fossa; (7) the unusual arrangement of the vermiform appendix; (8) the absence of the evidences of any restricting inflammatory process; (9) the uncertainty attending the diagnosis of the existing cause of the patient's condition; (10) the unusual means adopted for the relief of the patient.

#### TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.<sup>1</sup>

##### DISCUSSION OF DR. JAGGARD'S PAPER ON REDUCTION OF INVERTED UTERUS BY COLPUREYSIS.

DR. PHILIP ADOLPHUS. The author of this excellent paper has adopted in the reposition of the uterus of his patient, as efficient a mode of procedure as any hitherto in use. It is also the safest mode of replacing the organ. In the treatment of chronic inversions, success has followed all methods of replacement, whether effected gradually or rapidly. But forcible taxis ought to be the last resource, when gentler and as efficient means are exhausted. It may lead to laceration of the vagina, peritonitis and death.

<sup>1</sup> Concluded from page 17.

Gradual pressure, sustained or interrupted, solid or elastic, to which taxis has been added, has been equally successful, and has been practiced since 1858. It is absolutely safe. In some cases air pessaries or other elastic contrivances have been left in the vagina constantly, or have been replaced at intervals, for a period of three to eighteen days, and *uteri* have been returned by this method, which were inverted from one to fifteen years. The essential to success in the return of an inverted uterus is patient, gently continued manipulation of *some portion of the uterus*, by the fingers in the vagina with the application of the other hand externally to overcome the constriction of the cervix, and to prevent the forcible elongation of the vagina. A small hand, which observes the course of the pelvic axis, and avoids the promontory of the sacrum, and goes on one side of it, is also an element of success. Old adhesions opposing reduction of the inverted uterus are rarely present. An inflammation of the serous tissue in some portion of the pelvis may however be present as a complication, for this is an extremely common affection in all kinds of pelvic disease. Doubtless, in cases in which peritonitis followed manipulations, a chronic or subacute inflammation of the serous tissues was the predisposing cause. However, the most interesting portion of this subject to me is that of diagnosis, *in all tumors lying in the vagina*, which do not pathologically implicate that organ and the vulva. A correct diagnosis in inversion of the uterus is absolutely essential to treatment and the safety of the patient. The question of differential diagnosis between inversion of the uterus and polyp and fibroids is almost daily presented to the gynæcologist for solution. Not much reliance can be placed on the history in *chronic* inversion, for the diseases present similar symptoms. The size of inverted uterus of some standing is scarcely larger, and is often smaller than in the natural state. It is desirable to look on the case under examination as one of inversion as long as any doubt exists. The bowels and the bladder should be emptied and the patient examined under ether. It is certainly *not* a case of inversion, when by bimanual palpation, with fingers in the vagina, fingers or hand into the rectum, or sound in the bladder, the *unimpaird roundness* of the uterus presents itself for palpation, either in the normal or retroverted position. In the just mentioned condition, if the sound enters the uterus two and a half inches or more, the uterus merely contains a fibroid or polypus which emerges from the cervix. The diagnosis may be rendered more difficult if no opening in the *cervix uteri* can be found, the cavity having been agglutinated by previous inflammation, to the polypus. Here downward traction of the vaginal tumor to the vulva, by a vulsellum as recommended by Susdorff, and I copy his words, will at once confirm the presence of a polypus. "For the relations of the parts to each other as they existed in the vagina will be greatly changed when exposed to view. The lips of the cervix which surrounded the pedicle will have disappeared, having also become inverted, and along with it, probably, the vagina at its junction with the neck." The insinuation of the sound into the uterus will at once confirm the information procured by bimanual palpation. If the same manner of examination discloses the body of the uterus indented or cupped, we have a partial inversion, either with or without a fibroid, a condition which is not as unfrequent as is generally supposed. The

presence of a tumor in the vagina, the absence of the *fundus uteri* in the abdomen, and the presence in its place of a well-defined ring or cup-shaped cavity, unmistakably announces an inversion of the uterus; traction confirms the diagnosis. An incision, not a puncture, along the sides of the tumor, after the patient emerges from the ether, will at once show whether we have to deal with the *fundus* of the organ or a polypus. In the one case it will induce pain, in the other it will prove painless. In the former it will relieve the congestion and possibly lead at once to its reposition, or prepare for its successful replacement in the future.

DR. H. P. MERRIMAN. I would like to ask whether, after the uterus had been partially restored so that the *fundus* was on a level with the lips, and the colpeurynter seemed to do no good for eight days following, taxis would not probably have promptly, almost immediately, accomplished the remaining portion of the work.

DR. H. T. BYFORD. Every method has danger, and there was one danger in this method which should be mentioned, that is the danger of sepsis or resorption of decomposing secretions. That there was danger even in this admirably managed case was evidenced by the rise in temperature, followed by the disappearance or decline in temperature on cleansing the bag and vagina. I have seen the immediate decline of fever by washing out the uterus when enlarged and filled with decomposing matter. I object to the introduction of the hand into the rectum to diagnosticate a case of inversion, as suggested by Dr. Adolphus. I consider it a dangerous practice because it does a violence to the part which sometimes has done an irreparable injury, and is unnecessary.

DR. W. H. BYFORD. With reference to the subject of inversion and more particularly the diagnosis, there are two points which I think are very important in addition to those mentioned by Dr. Jaggard. In cases of polypus attached to the neck of the uterus and filling up a good part of the vagina, I think the uterus is always enlarged and may be palpated above the pubes. Another point in the diagnosis is the difference in the sensation imparted to the examining finger. A polypus feels as if covered by a shining, smooth membrane, unless it is decomposed, while the surface of the uterus gives the sensation of pushing the finger into plush or velvet. I give these two points of diagnosis as the results of my own observation and as being usually present. With reference to the mode of reducing inversion, I will give some of my own experiences during the last thirty years. In the year of 1859-60, I had a patient sent to me from Lafayette, Ind., with a chronic inversion of the uterus, which I attempted to reduce. I had just read a long treatise on the subject by Dr. White, of Buffalo, and Drs. Thomas and Emmet were then beginning to talk and write about these things, and I went at it with considerable enthusiasm. I got up the cup that Dr. Jaggard mentioned, and I also got a large rectal bougie, an instrument which Dr. White had praised very highly in his first operations, and I made the first attempt, lasting about an hour and three-quarters, and when I got through I was worse off than the patient, although she was pretty badly used up. I waited two or three weeks and made another attempt, but after a protracted effort I found my finger passing through the *fundus uteri*. I had been as cautious about the force as I

could be, making the effort as gradually as possible, but I perforated the *fundus*. I fully expected that the damage done would be fatal to the patient, but it did not produce any bad effect whatever, and she entirely recovered in two weeks and went home. Two years later she came to see me again but did not wish to have another effort made to have the uterus reduced. Two years later the uterus was found in its normal position. I saw the patient and her physician and I am certain that nothing had been done to reduce it. I tried two other cases, and made the same efforts but without success. I then concluded that it was hardly worth while to make trials of that nature again, and in the next case I tried the colpeurynter treatment. For some days I was nonplussed, from want of experience, as to the mode of placing the instrument in the vagina. I used the quadrilateral colpeurynter, and after I placed it in the vagina, I found the next day that I had gotten it under the uterus lengthwise, that the *fundus* was directed toward the vulva, and the neck directly backwards. I was merely compressing the body of the uterus against the symphysis pubis. I reflected considerably before I could get the right idea as to the manner of placing the instrument in the vagina. Finally I pushed back the *fundus* until the axis of the uterus corresponded to the axis of the superior strait and then introduced the colpeurynter as has been described by Dr. Jaggard, and applied the force.

The next day when I came back I found there had been some impression produced, and I went on with the use of it taking it out every day and replacing it in this manner until in seven and a half days the inversion was reduced. The patient was a poor woman and it was necessary for her to take care of her child. She did so, attended to it in every way, and also cooked three meals a day for her husband. She was on her feet nearly the whole daytime, and yet the instrument acted as well as if she had been lying in bed. Three out of the five cases I have operated on have been as painless as this. I should judge that a young primipara would probably suffer more from the use of the colpeurynter than one who had had children. I have now reduced five cases of inversion by the colpeurynter and have not failed in any case since I commenced using the instrument. The first case of inversion I had I amputated the uterus. And in considering the matter since I doubt if any other treatment could have been adopted, which would have been effectual. The uterus and vagina were both inverted, the whole vaginal canal was entirely outside of the body and the uterus hung down from it, both making a tumor nine inches long. The uterus was very much enlarged in consequence of its being dependent for so long a time. I was in consultation with two German physicians of this city and they suggested as the patient was living a miserable life, and would die before long, we should cut it off. After half an hour's use of the *écraseur*, it was removed. We amputated a little below the centre of the cervix. There was no bleeding, nothing to give rise to uneasiness. We pushed the vagina back again, put the parts in place and the patient recovered in the course of a month. Having spoken of one spontaneous cure, I will tell you of a patient that I attended in Mercy Hospital, in 1864-65, whose uterus was much in the same way as the one that I first operated on, coming out entirely beyond the vulva and dragging down the vagina very low so that there was

simply a circular sulcus between the labia and the vaginal wall. I tried to restore it by manipulation and failed; I proposed to amputate it but the patient would not consent. Meantime one of the internes had fallen in love with her and they went off to Missouri and got married. About six years afterwards, the doctor came back and told me that he had a son and his name was Byford. Upon inquiry I found that the child had been borne by this woman. One case of inversion occurred in my own practice. I attended the patient during confinement, and so far as I know she had no difficulties whatever for seven or eight days. By that time I was on my road to California, and I think Dr. Roler looked after her for some little time after I was gone. In two months I returned home and was informed that she had inversion of the uterus, which I did not believe. I went to see her and found that she was suffering from complete inversion. That was one of the cases I cured by colpeurysis. When the inversion occurred I do not know. I am certain that I made two or three examinations, as I always did at that time, always one the second day after confinement. I did not notice anything of the kind, and yet it might have been commenced and finished afterwards. I saw a case with Dr. Henry Byford which had been attended by a midwife in which the inversion occurred so that the fundus could be touched through the mouth of the uterus, and it remained in that way two or three weeks. The patient was bleeding, but I believed the contraction of the mouth of the uterus was sufficient to prevent it coming through; I advised ergot, and in a few days the uterus was in its proper position.

DR. EDWARD WARREN SAWYER. One point in the persistence that one can observe in applying the colpeurysis, without a fatal result following. The interesting case that Dr. Byford has spoken of last also shows the possibility of the obstetrician seeing nothing in the first few days of the puerperal state to suggest that anything has gone wrong. Cases are recorded in which the inversion has taken place without the obstetrician knowing it. In the fatal case that occurred in my practice the symptoms were so profound that it was impossible to overlook it, and I think the diagnosis of recent puerperal inversion of the uterus is much easier than of chronic inversion. In the case which occurred in my practice, the rim of the crater marking the upper border of the uterus, which I palpated through the abdomen, was fully as large as a common bowl, and its edges were very sharply defined. In addition to that the fundus could be distinctly felt through the os uteri. One feature of the paper which is by no means the least to be commended is the very admirable and graphic way in which the case was presented.

DR. H. F. NEWMAN. My experience has been limited, but I remember a single case, in which I assisted a surgeon of this city in attempting the reduction of a chronic inversion of the uterus. It was in a hospital, where they had every facility for the operation and it could be proceeded with leisurely. Some two hours were taken up with the various devices for reducing the inverted fundus, all of which were of no avail. There was a complete inversion of the uterus but not of the vagina, and I think previous to the attempt at reduction a fibroid was removed from the fundus of the uterus. No further myomatous condition was discovered at the time, but the difficulty was exceedingly

great in this case and nothing whatever was accomplished. I have no knowledge of the subsequent condition of the patient, whether she suffered materially from this, or whether she was afterwards successfully operated on, or the uterus amputated.

The PRESIDENT asked Dr. Jaggard what means he used to disinfect the colpeurynter.

DR. JAGGARD replied that he washed it thoroughly with soap and warm water, afterwards disinfecting it with a five per cent. solution of carbolic acid. The vagina was irrigated with a two per cent. solution of carbolic acid, and a bacillus of iodoform introduced.

DR. ADOLPHUS in reply to Dr. Henry T. Byford. In complicated cases of tumor in the abdomen or pelvis I would not do without the introduction of the hand into the rectum. I am not alluding to Simon's method, putting the hand in as far as the elbow, but I am talking of the hand. And when the patient is under ether, it can be done easily. It depends upon the size of the hand, perhaps, but with a hand well greased and introduced slowly it does a great deal of good and gives an immense deal of information which we cannot get in any other way. I examine every case, without exception, *per rectum*, with the finger.

The PRESIDENT asked Dr. W. H. Byford if he regarded it good practice after all ordinary means had been exhausted and the uterus was still inverted, to amputate?

DR. W. H. BYFORD. When all other measures have failed to effect the object and the patient is suffering so much as to make relief imperative, yes.

The PRESIDENT. I saw Professor Chiara, in Florence, operate upon a case of that sort. He placed a silver wire around the uterus and left it in position, and the parts gradually sloughed away.

DR. W. H. BYFORD thought that mode of operating upon the uterus bad, that it would have been better to have used the wire écraseur to stop circulation, and cut it off. But a sloughing mass in contact with the parts would be likely to produce pyæmia.

#### CELEBRATION OF THE CENTENNIAL ANNIVERSARY OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

THE minutes of the College of Physicians of Philadelphia begin with the record of a meeting held January 2d, 1787, for the formation of a permanent organization. Of preliminary meetings unfortunately no record remains. Dr. John Redman, the first President of the College, occupied the chair at this meeting and delivered a formal address, which was copied in full with its quaint phraseology and archaic orthography in the minute-book. The names of those instituting the new Society are subscribed to the early records in their own handwriting, and among them are found the familiar names of Philadelphia's leading physicians a hundred years ago. The founders were John Jones, William Shippen, Jr., Adam Kuhn, Benjamin Rush, Thomas Parke, Gerardus Clarkson, Samuel Duffield, James Hutchinson, William W. Smith, Andrew Ross, William Clarkson, James Hall, William Currie, John Redman, John Morgan, George Glentworth, Abraham Chovet, Benjamin Say, Samuel Powel Griffiths, Benjamin Duffield, John Morris, John Carson, John Foulke, and Robert Harris.

Before the charter was obtained in 1789, there had

been added Nathan Dorsey, John R. B. Rodgers, Caspar Wistar, Jr., James Cunningham, Charles Moore, Michael Leib, and John H. Gibbons.

The object of the new organization was stated to be "to advance the Science of Medicine, and thereby to lessen human misery, by investigating the diseases and remedies which are peculiar to our country; by observing the effects of different seasons, climates and situations upon the human body; by recording the changes that are produced in disease by the progress of agriculture, arts, population, and manners; by searching for medicines in our woods, waters, and the bowels of the earth; by enlarging our avenues to knowledge from the discoveries and publications of foreign countries; by appointing stated times for literary intercourse and communications; and by cultivating order and uniformity in the practice of physic."

The history of the College during the past century was distinguished by its consistent and loyal adherence to the best interests of the profession. In the addresses delivered at the celebration a retrospect was given of the course of the College and of the relations which it has borne to the profession and to the community.

The programme of the Centennial celebration was arranged by a Committee, consisting of Drs. Alfred Stillé, S. Weir Mitchell, I. Minis Hays, J. Ewing Mears, and Samuel W. Gross. The principal features were:

"An address by the President of the College given at Association Hall on Monday evening, January 3d, 1887, followed,

"At nine o'clock on the same evening, by a Reception in the College building. To the Address and the Reception invitations to ladies were issued.

"On Tuesday, at twelve noon, a meeting of the College was held at which Honorary Fellowships were conferred upon distinguished members of the profession. Addresses were made by Professors Stillé and DaCosta.

"At half-past six, on Tuesday, the anniversary dinner was given at the Union League.

"A valuable loan exhibition of the portraits of Fellows of the College, with those of distinguished members of the profession, and also a loan exhibition of rare medical books and rare objects of medical interest, was held January 5th and 6th."

The Commemorative Address by S. Weir Mitchell, M.D., President of the College, was delivered before a brilliant audience of ladies and gentlemen, and was received with marked evidence of approval. It was chiefly historical and biographical, but not tedious as such addresses are apt to be. On the contrary, it was elevated in diction and entertaining in its delivery. The orator, in order to place before his audience the condition of the profession at the time of the founding of the College, commenced by reviewing the social life of the century immediately preceding. In those early years, owing to the absence of adverse social limitations and restrictions, the physician, in this new country, found the way open to wealth, social place and even political preferment. In Philadelphia, even more than in the surrounding communities, the physician has, from the first settlement until to-day, held an almost unquestioned preëminence. "He is, and always has been, relatively a more broadly important personage here than elsewhere." Instances were

given of physicians becoming lawgivers, directors of banks and serving on collegiate boards.

Edward Jones and his father-in-law, Thomas Wynne, physicians of culture and gentle breeding, came over in 1682; the latter was an active practitioner of physic, and yet found time to become President of the first Assembly, in which sat his son-in-law, Jones. Thomas Lloyd found time to act as Deputy Governor, President of Council, and Keeper of the Great Seal of the Commonwealth. Griffith Owen, the physician of William Penn, was Member of Assembly, Deputy Master of the Rolls, and Commissioner of Property. Lloyd Zachary, the first physician elected to the Pennsylvania Hospital, was what we now would call Port-Physician, in 1725; sharing this duty with Thomas Graeme, a Scotch physician, who arrived in 1715, and who subsequently received other distinctions, the last of which was that of Chief Justice of the Supreme Court.

The fact that so many of the early physicians were of the Society of Friends may serve to explain why, neither in the seventeenth nor the eighteenth century, are found in Pennsylvania what was very common in early New England and New Jersey, men doubly occupied as physicians and clergymen.

Turning to the subject of the institution of the College, it was observed that many of the founders had been educated at Edinburgh, which is the parent of the University of Pennsylvania. "Genealogically we might speak of our College and of the University as children of Edinburgh and grand-children of Leyden." Short biographical sketches were given of John Redman, "a man whom all men respected and all men loved"; John Jones, the author of the first American book on surgery; Plunket Glentworth, the friend of Washington, who wrote of him, "no nobler man or more skilful physician ever lived"; John Morgan, the founder of the University of Pennsylvania; William Shippen, the associate of Morgan, and able anatomist; Adam Kuhn, the botanist and friend of Linnaeus; Benjamin Rush received an appreciative notice which is best given in the eloquent language of the speaker:

"With reverent doubt of my powers to do justice to the greatest physician this country has produced, I approach the task of briefly recalling to your memories the vivid and emphatic personality of Benjamin Rush. His life invites a less hasty biographer, and is full of such seeming contradictions as can only be explained by the belief that the earnest, decisive, and mutinous nature of a man, proud, rather than conceited, got the better of the principles by which he honestly strove to guide his conduct. That he won at last in this contest, was shown by the grief with which a nation mourned his death, when the poor in crowds besought a sight of his face, or, at least, to touch his coffin. Look at his portrait, by Sully, in our hall. It has the scholar's hands, the largely modelled head, the contemplative blue eyes of the observer, the nose and chin strong, firmness in the mouth, and a trace of too critical tendencies in the droop of the lines of the lips, withal, a general expression of tranquil benevolence, a face like the man's life and character, full of dissimilars, with a grand total of good.

"How shall I briefly bring before you the career of this restless being? Relentless energy drove him through a life in which ardent sense of duty, large-minded philanthropy, love of country, devotion to his art and its science, immense belief in himself, were the motives to industry; which made note-books the

companions of his student youth, and which failed not until the pen fell from a hand enfeebled by the close approach of death.

"He was a statesman, a scholar, an army surgeon, a punctual and careful physician, an actively religious man, a far-seeing and courageous philanthropist, and a sanitarian far in advance of his day. These are what I might call four careers, in all of which he excelled, unaided by secretaries or modern means of condensing and relegating labor: one such suffices most men. He was a member of every important political assembly which met in this State while he lived. When timid men fell out of the Continental Congress, he was elected to that body, that he might sign the Declaration of Independence, and was the only physician whose name is on that energetic arraignment of the Crown. I have neither time nor desire to speak of his relations to Washington. He criticised him with his usual courage and with a severity in which at that time he was not alone, and, although later in life he somewhat relented, he never quite forgot the bitterness which arose out of his too famous letter, and to the end of his days looked upon the great leader as one not above the judgment of his fellows. As regards the patriotism of Rush there can be no doubt. It approached the earnestness of religion, and its very intensity made him unhappy and critical when others seemed to him to be showing that want of energy which in the first years of the war he thought was seen in the Fabian policy of Washington.

"Rush was Surgeon-General to the Middle Department, and later Surgeon-General, and served faithfully in the New Jersey campaign and in the dreary camp at Valley Forge. He resigned in 1778, after his difficulty with his chief, and declined pay for his services.

"As a broad-minded philanthropist, I view him with wonder. The higher education of women he urged as a special need of a Republic, and as boldly wrote of public punishments and against the penalty of death. With like courage he denounced slavery, or turned to demand legislation against the abuse of alcohol, or to implore care in the use of this agent in disease, and, although a scholarly man, eloquently represented the waste of time in the too general study by the young of the classical tongues.

"On his medical career I cannot linger. His views as to bleeding were extreme. They were greatly modified in his later years, but have been misrepresented by the enmity his positive nature excited, and can be fitly judged, not by his occasional vigor of statement but also by the many tempering remarks to be found in his works. His ideas on the contagion of yellow fever and its domestic origin excited the hostility of commerce, and embittered his existence; but, although as to the former he changed his beliefs later in life, as to the latter he seems never to have faltered.

"I presume that he held his opinions tenaciously, and was so conscious of his own general superiority to those about him, that he found it hard to weigh their reasons justly. He says, 'I early discovered that it was impossible for me, by any reasonings, to change the practice of some of my brethren.' Then he adds, 'humanity was therefore on the side of leaving them to themselves, because what is done in these consultations is the ineffectual result of neutralized opinions; for the extremity of *wrong* in medicine, as in morals and government, is often a less mischief than that mix-

ture of *right* and *wrong* which serves, by palliating, to perpetuate evil.' How interesting is this irritable confession, which tells so much more of the man than he meant to put into it. Let me add, as a thoughtful physician, that no one can read what he wrote—and I have read most of it—without a strong sense of his sagacious and intelligent originality, and admiration of his clear and often fervid style. His work on insanity is a masterpiece. A recent English writer calls his book on 'The Bilious Remitting Yellow Fever' a wonder, and says of that remarkable description of his sensations during the height of the epidemic, 'it is as if he were talking to you, a ghostly whispering through a veil of nine-tenths of a century.' He has been called the American Sydenham. He was not as I see it, so great a physician, but taking his whole career—and both were earnest republicans—Rush was the larger personage, and surely, next to Franklin, the greatest citizen of Pennsylvania.<sup>1</sup>

"His bitterest foes are best remembered because of the man they reviled. Even before death came to heal all wounds, he stood where few have stood in the estimate of men. He could not but feel this tribute. It gentled the positive and ardent nature, once ready to cross swords with all who dared to differ. He says 'I was once an aristocrat, then a democrat, now I am a Christocrat.' Certain of his words should have been placed on his tombstone. With them we may leave him to his repose, near the yet greater Franklin. 'Posterity,' he says, 'is to the physician what the day of judgment is to the Christian.'

Among the departed worthies who were Fellows of the College, and served their generation well, was Samuel Powel Griffiths, the editor of the *Electric Repository*, and the able coadjutor of Rush in sanitary and philanthropic work. "Wherever he went and in whatever he did peace and gentleness were round about him, so that in every relation of life, men and women eagerly trusted this simple, straightforward, intelligent, unambitious man. Caspar Wistar, Jr., the successor of Shippen, in the chair of anatomy, in the University, had the distinction in 1811, of publishing the first native treatise on anatomy in this country. The Wistar parties, which have filled such a conspicuous place in the social life of the profession in this city, were founded by him. The last of those elected previous to the incorporation of the College in 1789, was Michael Leib, who after honorable services in the yellow-fever epidemic, left the profession to become a leader in the Democratic party, and served in both houses of our National Congress."

The orator next took up the public services of the College, its early adoption of a Code of Ethics, its care for vital statistics, and meteorological records, its studies of epidemics, and letters of advice with regard to the great outbreak of yellow fever in 1793, which he then graphically described. Many of the physicians died and none were left untouched by the plague. Says Rush, "At one time but three physicians were able to do duty outside of their own houses. From this cruel summer until 1806, no year left us free from the fever, but the worst of it fell upon us in 1798." Hutchinson, Morris Griffiths, and later Hugh Hodge

<sup>1</sup> Rush left letters, diaries, and also biographic memoirs of his contemporaries, without which, no man can fitly judge him or them. Friends, relatives, and executors have been chary of publishing these records. Some of them I have read, and I think it only just to a great man that we should know all that there is of him to know. He was too great, too productive, too various to lose esteem on account of anything he may have said or written of Washington.

and Annan perished. "The horrors of 1825 with its small-pox, and the cholera of 1832 found the successors of these men as able, as simply ready, as courageous."

After a short period of apparent paresis the College, from 1824, had fortunate accessions of new and notable names, Harthorne, Bond, Hodge, Meigs, La Roche, John K. Mitchell, Darrach and notably Wood and Bache, and Pennock Gerhard, Hays, Pancoast, Mütter, Carson, Dunglison, Norris, McClellan. The present College home is due chiefly to the liberality of George B. Wood, of George Fox, and to the unceasing efforts of Isaac Hays, as chairman of the Building Committee. The Mütter bequest, of a valuable collection of pathological preparations and specimens, with \$30,000 endowment to keep it in order, stipulated that a fire-proof shelter should be provided. This stimulated the building fund, to which Dr. Wood gave not less than \$10,000. The library, which owed its first gift and legacy of books to John Morgan, now numbers nearly 38,000 volumes and some 20,000 pamphlets, with an annual growth of some 25,000 volumes, with thousands of pamphlets, and 325 current medical periodicals. The debt of the library to Dr. Samuel Lewis, who is still living, was gracefully and heartily acknowledged.

In that last great war "whose authors we do well to forgive, but whose trials and lessons we do as well never to forget, this College was true to its traditions. There are on our list to-day, at least 104 men who served their country in the field, in hospitals, or at sea, in those years of sacrificial trial.

"Whatever we may have thought or felt of that section of our race which faced us in fight, of this at least I find it a pleasure to feel sure, that wherever men were sick or wounded, our ancient guild did well its Christ-like duty. As to that record, North and South, there can be neither doubt nor difference.

"I close with satisfied pride these annals of the past, and its dead. I see about me men whose books are in every tongue of Europe, whose works are known and honored among the learned of every land, men who wear by just decree of their fellows the unseen crowns of honorable estimate. I see, too, the young in work, the men who are to follow us. To them we shall soon consign this precious heritage, the record of a century of duty; a hundred years without one break in our meetings save when pestilence thrust upon us a more imperative service. There is that in these years to make them proud of a fellowship which in war and in peace has left us examples of single-minded workers unknown to fame, of the charity without taint of selfishness, of heroic lives lost in battle with disease, of gentle scholars, of daring surgeons, whose very fingers seemed to think, of physicians rich with every professional grace. The pride of lineage is valueless which does not secure to the future vitality of usefulness, and I must have told my story ill if to every physician who hears me its illustrations have not the invigorating force of moral tonics.

"I turn now from the present and face the silence of futurity. As earnestly as our first president, I pray with him that all those who sit around me, and all who are to come, do publicly and privately serve their generation.

"Feeling, like him, the weight and dignity of my office, and to-day more than ever, I look onward

thoughtfully to that next centennial time. Every heart that beats in this hall to-day will have ceased to pulsate. Another will stand in my place. Reviewing our works and lives, he will be able, I trust, to say as confidently of us as I have said of your fathers—these, too, belonged by right of dutiful lives and sincere work, to our great, undying brotherhood."

After the Address a Reception was held at the Hall of the College, at which were present many distinguished members of the profession from other cities.

At noon, January 4th, a special meeting of the College was held, and Prof. Alfred Stillé read some interesting "Reminiscences of the College of Physicians of Philadelphia." A retrospect of the gradual growth of the institution, its vicissitudes and later achievements, with personal recollections of departed Fellows, but chiefly an historical account of the wonderful development of the library, were the subjects treated by the essayist. The public spirit of the College during the century was shown by its memorials to the Legislature and municipal government upon the subject of vital statistics, the importation and sale of drugs, the management of the City Hospital, the sewerage of Philadelphia, its park and its water-supply. It adopted a Code of Ethics in 1843, which was subsequently substantially adopted by the American Medical Association, it aided in forming the State Medical Society, and the City Board of Health, and has established a Nurse Registry Bureau which has been found to be a great public convenience. It also memorialized the Legislature to legalize dissection, and the present law took its origin in this action of the College. It took a prominent part in the celebration of the National Centennial in 1876. It memorialized Congress in 1850, for a law for the inspection of drugs; and later, with regard to the formation of a National Board of Health; the publication of an Index Catalogue of the Library of the Surgeon-General's Office; the furnishing of a fire-proof building for the Army Medical Museum. The spirit of the College is well expressed in its motto "*Non sibi sed toti*."

At the conclusion of the Address, the President introduced and conferred the diploma of membership upon the newly-elected Associate Fellows: Henry P. Bowditch, M.D., of Boston; David W. Cheever, M.D., of Boston; William H. Draper, M.D., of New York; R. Palmer Howard, M.D., of Montreal; Hunter McGuire, M.D., of Richmond; John C. Reeve, M.D., of Dayton; Nicholas Senn, M.D., of Milwaukee; George C. Shattuck, M.D., of Boston; T. Gailard Thomas, M.D., of New York; James T. Whitaker, M.D., of Cincinnati; David W. Yandell, M.D., of Louisville.

The Address of Welcome to the new Associate Fellows was delivered by J. M. DaCosta, M.D., LL.D., who, after briefly referring to the changes wrought in social and civil life during the past century, said:

"Our age is an age of zealous investigation and active change. Newly-elected Associate Fellows, we find represented in your ranks what, in these days, we chiefly honor in our many-sided profession. We find learning and order, but we also find love of research, originality, boldness; we note you quick of eye, fertile of resource, independent of thought, and, if we have singled you out on this occasion, it is because you are the type we delight in, the true children of our time and tendencies.

"How will it be when another hundred years have

passed away? Will the best traits that have made our investigators eminent go to form the cast of a medical mind reaching out into now unseen worlds of science, and looking, with eyes keen with suggestive research, at every line on every page that age has seasoned? Or will all knowledge be so plain and elementary that its application alone will be cared for, and investigation be regarded as nearly complete? It is not likely. The stone thrown into the water gives rise to ever-increasing rings; and so must it be in pursuits in Nature. There is still a greater world beyond the microscope and the telescope than we know with it.

"Associates, in joining you to us to-day, we bestow on you all this College has to bestow. It gives you full share in all that a century of learning, of culture, of pure aims, of renown, of high tone, most zealously guarded, has done to make it famed and respected. On its part, it takes a mortgage on your past acquisitions, as well as lays claim to a portion of the results of your future work. And when some fresh, thoughtful deduction in practical medicine becomes the theme of every pen; some new, life-saving operation is everywhere discussed; some clear monograph of exhaustive research and wide grasp is by every one lauded; some ingenious application of physiological experimentation laid before the world; when we hear of a celebrated treatise of a great practical master being translated into yet more tongues — we shall feel the pride of possession in our Associate Fellow, and, rejoicing in his success, claim him, for the College, as among our own. These are the feelings we have toward you, and we now greet and welcome you as sons of this old institution with all the love of brotherly affection."

The essayist concluded his very interesting address in the following words:

"In this partial retrospect of the history of the College during the last forty years, one can hardly fail to note that in it, as in political and social, and, indeed, every history, progress has depended upon individuals. The hour must come, and the man must arise, who, by his voice or his example, stimulates other men to vigorous and fruitful action. As in its infancy the great name of Rush dominated the College, through his inventive genius and foresight, so in its later history George Bacon Wood ruled it by his wisdom and liberality; another has made illustrious his living name by opening a rich mine of intellectual wealth for all seekers after knowledge; and still another is distinguished for his liberality in promoting the social, artistic and literary tastes of his fellow-members. All, by their example, have so warmed the enthusiasm and quickened the sympathies of the Fellows, that this commodious building, this precious scientific museum, and this noble library, have sprung into existence in the brief space of a single generation.

"Let us hope that so fair a flower of science shall not languish through indifference, neglect, or indirection, and that at the end of another century our posterity shall be able to speak of us with unstinted praise, and with as sincere gratitude as we now feel toward those who prepared the way for this goodly habitation and temple dedicated to the service of humanity."

At the close of the exercises, luncheon was served.

Limits of space forbid extended reference to the Loan Collection, or even the enumeration of the many valuable portraits of the founders of the College, and

of distinguished members of the profession, both in and out of its Fellowship; or of the many objects which it contained of medical interest, a printed catalogue of which was provided by the Committee.

The dinner was given on Tuesday evening, in the spacious Assembly Room of the Union League. There were one hundred and thirty covers, and fourteen courses were attractively served, but the chief features of the occasion were the responses to the toasts, and an original Commemorative Ode by the President. All who were present were physicians, and, with few exceptions, either Fellows or Associate Fellows of the College. Among those in attendance from a distance, were Drs. George C. Shattuck, Boston; T. Gaillard Thomas, New York; Hunter McGuire, Richmond; R. Palmer Howard, Montreal; William H. Draper, New York; Fordyce Barker, New York; A. M. Pollock, Pittsburgh; R. S. Ives, New Haven; E. Darwin Hudson, New York; Nicholas Senn, Milwaukee; James F. Chadwick, Boston; David W. Cheever, Boston; George B. Shattuck, Boston; J. T. Whitaker, Cincinnati; Wm. W. Phillips, Trenton, Iraill Green, Easton; J. S. Billings, U. S. A., Washington; Henry P. Bowditch, Boston; J. C. Cameron, Montreal; A. H. Halberstadt, Pottsville.

The Loving Cup was sent around at the end of the last course, and toasts were in order. The sentiments proposed by the President were:

The "Founders," which was drunk standing and in silence; Dr. Hartshorne made a brief address.

The "Fellows," responded to by D. Hayes Agnew.

The "Associate Fellows," replied to by T. Gaillard Thomas.

The "Physician," William Pepper, Provost of the University of Pennsylvania.

The "Surgeon," John Ashhurst, Jr.

The "Obstetrician," Theophilus Parvin.

The "Medical Societies of America," by John S. Billings, U. S. A.

The exercises concluded by the reading of commemorative stanzas written by the President for this occasion.

### Recent Literature.

*A Treatise on Electrolysis and its Applications to Therapeutical and Surgical Treatment in Disease.* By ROBERT AMORY, A.M., M.D. 8vo, pp. vii, 307. New York; William Wood & Co. 1886.

This is the volume of Wood's Library for August, a thing to be regretted as the book is therefore less accessible. The subject of electrolysis is one that has heretofore received little consideration in works on electro-therapeutics; Erb, if we mistake not, barely refers to it, and De Watteville gives it but five pages. The present work, we believe, is the only one devoted entirely to the subject. The author therefore dwells at length and perhaps somewhat too diffusely, upon the physical and chemical principles involved in electrolysis, and gives full details of the pathology of the diseases mentioned. This fulness of detail, however, if it be a fault, merely renders the work more exhaustive. Several chapters, too, are devoted to the principles of electrical science, and afford much valuable information as to the different forms of cells and the various appliances for the proper use of electricity. We regret to see that the author continues to use the mis-

leading and obsolete terms "quantity" and "tension" because they "will be better understood." The result is often confusing to those who have discarded those terms as meaningless. The practical application of electrolysis is illustrated by many cases quoted from different writers, and by cases from the author's own experience. In his own hands it has given brilliant results in the treatment of exophthalmic goitre and in the removal of superfluous hair. It has proved of advantage, too, in the treatment of aneurism and of every form of hypertrophic normal growth. We are sorry that the author has not given a more full account of its use in stricture of the urethra, now so much discussed, especially as he differs from several recent writers in preferring the kathode for local application. Since the use of electrolysis demands special skill and considerable outlay for batteries and appliances, its application must naturally remain in the hands of specialists; but the value of electrolysis is unquestionable, and we trust that this book may bring to the notice of those who have the necessary knowledge of electricity an appreciation of its value as a therapeutic agent. The mechanical execution of the book is much above the average of Wood's series.

*Hémorrhagies Uériques. Étiologie — Diagnostic — Traitement.* Par LE DOCTEUR SNEGUIREFF, de Moscou. Édition Française. Paris, 1886.

The title of this work hardly does justice to its scope and comprehensiveness. The writer has aimed to give a study of the hæmorrhages to which woman is liable during her whole life, and inasmuch as uterine hæmorrhage is a very frequent symptom of several important affections, and an occasional accompaniment of a large majority of diseases of the pelvic organs, the result is an extensive treatise on gynecology. The first part of the book is devoted to a description of the method in general followed by the author in making his examination. He then considers the etiology of uterine hæmorrhages, dividing them into organic and reflex. The organic he classes as follows: (1) malignant growths; (2) benign growths; (3) chronic inflammations (metritis and endometritis); (4) abortion, pregnancy, puerperal diseases; (5) displacements of the uterus; (6) ovarian apoplexy and hæmorrhages of the pelvic peritoneum; (7) the menopause; (8) general disturbances of nutrition. The treatment is divided into two sections: (1) Treatment of uterine hæmorrhages in general; (2) treatment of the different affections which cause the hæmorrhage.

As will be seen from this brief résumé of the contents of the book, it takes a wide range; at first glance, perhaps too wide. But on the whole, in these days of the multiplication of extended treatises on gynecology, a work which taking a single prominent symptom looks at the diseases of women solely with reference to that symptom alone, is both instructive and refreshing.

The author has done his work well. He is well-grounded in German methods and ideas, but is also original. There is very little to take exception to in any portion of the book. The part which deals with general treatment of uterine hæmorrhage is perhaps most fertile in suggestions. The author places a great deal of dependence, and justly in the light of his experience, upon the use of hot and cold baths, general and local, and upon prolonged courses of hydropathic treatment at the various famous baths of Europe. The book is well worth reading.

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### COLLECTIVE INVESTIGATION ON CENTENARIANS.

THE late Dr. Farr has shown, in his "March of an English Generation through Life," that one million children born in England live forty million, eight hundred and fifty-eight thousand, one hundred and eighty-four years, that two hundred and twenty-three live to the age of one hundred, and that finally at the age of one hundred and eight, one solitary life dies.

In the supplement to the *British Medical Journal*, of December 11th, Prof. Humphry has analyzed the returns from reliable medical men regarding fifty-two centenarians tabulated from the results of a form of inquiry issued by the Collective Investigation Committee of the British Medical Association. In only eleven was the age confirmed by any official record, but the others were naturally assumed to have at least reached nearly the age of one hundred, the informant, in each case being competent to estimate the value of the evidence, and in most of the cases being intimately acquainted with the individual.

In eleven the intellect is stated to have been high, and low in only five; twenty were reported strong, sixteen of average strength and twelve feeble. Thirty-six were women, sixteen men, — a fact explained by Mr. Humphry partly by the fewer exposures of women, notwithstanding the dangers incidental to childbearing and the diseases associated with the varying demands made at different periods, upon the organs connected with that process; and partly also by the greater inherent vitality in the female.

Of the thirty-six women, twenty-six had been married, eleven had large families, and eight married before they were twenty, one at sixteen and two at seventeen. Many of the centenarians were members of large families, there being but two designated as only children. Forty-one of the fifty-two had been married. Twelve were first children. The parents of one centenarian were first cousins.

The average centenarian qualities were a good family history, a well-made frame of average stature, spare rather than stout, robust, with good health, appetite,

and digestion, capable of exertion, good sleepers, of placid temperament, and good intelligence, with little need of, and little consumption, of alcohol and animal food, although one man always did and "always will" drink to his utmost capability.

Three were affluent, nineteen poor, and twenty-eight in comfortable circumstances.

Twenty-four of the centenarians had no teeth, and the average number retained was only four or five. Twenty-eight used glasses, but thirty-five, including many who used glasses, were reported to have been in the enjoyment of good sight. Hearing was good in twenty-two, indifferent in seventeen, bad in nine, one was deaf.

The majority were moderate or small eaters, but maintained an average pulse of 70°, and respiration of 22,—a fact explained by the diminished elasticity of the circulatory and respiratory apparatus. The arteries had become less capable of accelerating the blood-stream, and the vital capacity of the chest was much reduced, as shown in the slight difference in the chest-girth between the state of inspiration and that of expiration. The hours of sleep averaged nearly nine, the extremes being twelve and four.

The brain held out as well as the other organs, perhaps better; two only were demented. The weakness or failing, generally, seemed to have been about equal in the several great organs.

The majority had suffered little from illness at former periods, yet some had recovered from severe diseases. The habits of life were generally such as conduce to health, necessitated in a measure, at least, by some from their occupations. Thirty-two did not use tobacco; twelve were total abstainers from alcohol, twenty took little, eight drank moderately, one drank to excess on festive occasions, one was a free beer-drinker, and one "drank like a fish all his life" when he could, but said also that he could not get much.

#### REMOVAL OF THE UTERINE APPENDAGES AND THE LIVERPOOL HOSPITAL FOR WOMEN.

THE question of the removal of the uterine appendages has a distinctly ethical as well as surgical aspect. The former is growing in importance if we may judge by the increasing frequency with which this phase of the subject is discussed in medical literature, and by some distinctly practical results of a decidedly unpleasant character, which have occurred both in this country and Great Britain.

One of the secondary outcomes of this question has been engaging the attention of medical men in England the past year, in connection with the Liverpool Hospital for women, and though the final stage may not have been reached, yet it may be of interest to briefly review the course of events thus far.

Dr. Francis Imlach, one of the surgeons to the Liverpool Hospital for Women, performed an operation for the removal of the uterine appendages in a

case of intra-peritoneal hæmatocele. The patient recovered, but subsequently sued Dr. Imlach on the ground that the operation was unnecessary and performed without knowledge on her part of its nature. The case came to trial in August, 1886, and after the evidence on both sides was in, the jury without leaving their seats returned a verdict for the defendant.

In February of the same year, whether, which is probable, because the fact of this suit having been brought was known, or for the reason alleged that the number of operations included under the term abdominal section, had risen from eighty-six in 1884, to one hundred and sixty-six in 1885, and such increase was considered "remarkable," a committee was appointed by the Liverpool Medical Institution to inquire into the matter.

The resolution under which the committee was appointed stated that "In view of the large and increasing number of cases of abdominal section in the Hospital for Women in this city, as shown by the Annual Medical Report for the years 1884-5, this meeting is of opinion that a special committee be appointed for the purpose of investigating the grave question of practice and ethics involved in the performance of these operations, and to report at a future meeting." The committee was composed of eight surgeons and physicians connected with the large hospitals of Liverpool.

Just what relation the Institution holds to the medical profession in Liverpool, and with what authority such an investigation into the methods of a hospital could be prosecuted, we have no means of knowing. It is said that the "medical staff of the Hospital for Women present, took an active part in the discussion, and voted for the proposed committee," and that "at a subsequent period it was deemed right that the medical officers of the Hospital should each if they wished send a representative to the committee to watch their interests." Suffice it to say the committee did make a thorough investigation, the results of which are embodied in a report published in the *Lancet* of December 11th, 1886.

The plan of investigation included the reports of the medical officers of the Hospital, supplemented by notes of the condition of the patients as ascertained by subsequent visits; information received from medical practitioners in and around Liverpool, who had patients under their care either before or after operation at the Hospital; personal visitation of some forty or fifty patients by members of the committee; certain specimens of ovaries and Fallopian tubes removed by Dr. Imlach; the appointment of a sub-committee to personally examine the Hospital records, and question the lady-superintendent and nurses.

As a result of their investigations they found that there had been one hundred and six abdominal sections performed for the removal of the uterine appendages. Ovariectomy, exploratory incision, and oöphoraphy, which comprised the rest of the one hundred and sixty-six, did not call for any special comment.

With regard to the first series the committee arrived at the following results: (1) Danger to life. The mortality was eight or nine per cent., and the committee sagely concludes that if the operations were done for grave disease, and the patients were generally cured, such a mortality was not high, but if done for trivial affections, and the patients were generally not benefited, it was. (2) Sterility. As this is a necessary result of the operation, it should be clearly explained to the patient, and her relatives. (3) Loss of sexual feeling, and of physical energy. The committee found a comparatively small number who complained of these effects. (4) Hernia. Out of one hundred and sixty-six cases, fifteen were found in which hernia resulted. (5) Actual results to the patients. The committee found distinct and permanent benefit in about half the cases, slight or temporary benefit in nearly as many, and positive injury claimed in a few.

In view of the above facts, the committee were of the opinion "that at the Hospital for Women sufficient care and discrimination had not been exercised in the selection of cases for operation, and that in many instances the gravity of the symptoms was not such as to have justified an abdominal section of any kind." They recommended consultations before any abdominal operation, full information to patients of the nature and consequences of the operation, and longer retention in the Hospital after operation.

Dr. Imlach, whose unfortunate lawsuit was apparently the "*fonc et origo*" of this investigation, and against whose methods the criticisms of the committee were mainly directed, inasmuch as he performed eighty-five out of the one hundred and six operations, has sent a letter of protest to the *Lancet*, which is published with the report of the committee, and it is only fair to briefly outline the points he makes. He claims that the committee was not composed of men who could fairly be supposed to be unprejudiced; that he wished to be represented on the committee by a pathologist, but the one he selected declined, as he did not approve of the method of appointment of the committee; that the disease for which he performed the operation in the case of the patient who subsequently sued him, though held by the committee not to be one for which abdominal section should be performed, is regarded by most leading gynecologists as liable to develop grave or fatal symptoms, and to be one for which laparotomy is frequently indicated; that the question of the justifiability of the operation depends upon the severity and persistence of symptoms, and the pathological changes found in the organs; and that the committee failed to mention that he had "treated sixty-seven cases of inflammatory disease sent in with a view to operation, solely by rest and medical means." There are many minor points which Dr. Imlach alludes to, which seem to indicate pretty clearly that the investigation, though apparently thorough, was not conducted in a spirit of perfect fairness towards the surgeons of the Hospital.

What is the general impression conveyed by this whole transaction? What good has it accomplished or can it accomplish? It may serve, perhaps, to emphasize more strongly certain secondary considerations in connection with operations of this character, such as the importance of not operating until other means had been tried and failed, the advisability of the patient and her friends thoroughly understanding the nature and results of the proposed operation, and the help in estimating the value of the operation by keeping the patient under observation for some time after it. But when we consider the class of patients who present themselves at large public hospitals with this class of affections, women for the most part ignorant, many of them degraded, often with a distinctly nervous element predominating, it seems absurd to suppose that any investigation which depends largely upon the statements of such women for its facts, should be considered a suitable way of arriving at just conclusions.

Had the committee been able to question and examine these women before operation, and to see the specimens when removed, then their decisions would have been entitled to respect. The first they were of course unable to do, and the second they seem to have neglected in the cases which they might have examined, as no mention is made in their report of the pathological specimens laid before the committee by Dr. Imlach. In fact, this wise body of men seem to have expressly acknowledged the weakness of their position in this clause of their report: "The Committee regret that from a scientific point of view they are unable to give any very definite assistance to the medical profession in judging of the class of cases appropriate for the operation under consideration, in advance of what is already known and admitted," and yet they condemn these surgeons for having in many cases operated unjustifiably. Candid men must judge how fair such condemnation is. Our verdict would unhesitatingly be, "Not Proven."

While it is true, as has been intimated above, that the attending surgeon at a woman's hospital cannot be too circumspect in advising any radical uterine operation, without making sure that the patient is fully informed as to the actual nature and potential consequences of the operation advised, it is also true that committees of investigation, and other persons who may be placed in the position of critics, cannot exercise too much care against making any report which may increase the grave perils to which the practicing gynecologist is already exposed from designing women.

#### THE CENTENNIAL OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

THE celebration last week in Philadelphia of the one hundredth anniversary of the founding of the College of Physicians of that city was an occasion of more than local professional interest. Our report of the proceedings gives an abstract of the President's vivid review, addressed to a general audience, of a

medical century in Philadelphia as embodied in the active, useful, and responsible lives of the founders, and distinguished members of the College, especially in the first half of the century since 1787—a retrospect continued and amplified for the second half of the century by Dr. Alfred Stillé, a former President, in an address delivered the next day before the Fellows of the College. A reception at the College followed Dr. Mitchell's address, and after Dr. Stillé's address diplomas of associate membership were conferred upon distinguished representatives of the profession selected for the honor from various parts of the country. The celebration terminated with a banquet, to which one hundred and twenty members and invited guests sat down. During the two days an extremely interesting and instructive loan collection of portraits, all of medical men, if we except one of Benjamin Franklin, was open to the public.

The programme, as arranged, was worthy of the occasion, and was very successfully carried out; but such festivities represent something more than mere self-congratulation at the completion of a century, or than the gratification of an instinct for generous hospitality. They represent for Philadelphia an acknowledgment of the many advantages which have accrued to the medical profession and to the public from the existence and the prosperity of the College; to the stranger, who was within her gates, they should represent the wisdom and importance of founding and fostering similar institutions elsewhere.

A suitable building where physicians of rival medical schools, of different views and different modes of practice may meet and discuss the questions of the day face to face on neutral ground; where medical societies may convene in proper halls surrounded by books, by a museum, by portraits of distinguished worthies of previous generations—such a building is needed in all our large cities. It should be under the control of a corporation representing the energy and the liberal intelligence of the medical profession in the community, of a body of men actuated by the spirit as well as the letter of the motto, "*Non sibi sed toti.*"

Such a corporation would exercise needed authority and would be often appealed to by a perplexed public in questions of State, of preventive medicine, and might even succeed to some extent in realizing the last clause of the comprehensive list of objects given for the foundation of Philadelphia's College, namely: "The cultivation of order and uniformity in the practice of medicine." New York has such an institution in process of development in the Academy of Medicine; in Boston the Medical Library Association offers the possibility of a similar evolution; but the College of Physicians of Philadelphia in its past history, its present organization and equipment is *facile princeps*, if not alone, among such institutions as we have pictured and would like to see flourishing in our large cities, especially in such as are centres of medical thought and education.

#### A NEW TREATMENT OF GONORRHEA.

CASTALLAN, of St. Mandrier Hospital, starting with the view, now popularly entertained, that gonorrhoeal urethritis is a parasitic disease, and being led by observation to believe that the microbe can only live in an acid medium; finding, moreover, that in this disease the discharge is, as a rule, acid, proposes to treat gonorrhoea in the acute stages by urethral injections of sodic bicarbonate; three or four injections being made daily of a one per cent solution.<sup>1</sup> For this treatment, which is but a logical inference from the premises, he claims remarkable success, although the cases on which it has been tried in St. Mandrier, as yet, number only a dozen. The injections of bicarbonate of soda are commenced as soon as the discharge appears, or the patient comes under observation; the urethral secretion is tested every day with litmus paper, and the injection is kept up till the discharge becomes alkaline or neutral. For internal treatment the patient is given flax-seed tea, with occasional doses of bromide, if there seems to be any indication for the sedative effects of this salt. His conclusions are as follows:

(1) The urethral pus in the first stages of the disease is generally, if not invariably, acid; this acidity is quite pronounced.

(2) The treatment by bicarbonate of soda rapidly lessens the discharge; it also rapidly diminishes or removes the pain in micturition.

(3) In old urethritides, and in those which have been treated by the usual injections, it speedily brings about a cure.

#### DEATH FROM COCAINE: A RESULTING SUICIDE.

It has not heretofore been accurately determined what dose of cocaine is dangerous, or how far its application to various mucous surfaces, as the rectum, may be carried with safety. In one case reported by Delafosse, forty-eight grains were introduced into the rectum for the purpose of producing local anaesthesia during the curetting of a tuberculous ulceration; the operation was successful. A similar case lately came before Professor Kolomnin, of St. Petersburg, a young and brilliant Russian surgeon. In order thoroughly to scrape and cauterize the rectum, which was the seat of a tuberculous ulcer, cocaine was employed in just half the quantity previously used by Delafosse. Twenty or thirty minutes afterward, symptoms of poisoning declared themselves, syncope and complete collapse set in, and in spite of stimulants, injections of ether, faradization, artificial respiration, etc., the patient died.

So chagrined and overwhelmed with horror was the unfortunate surgeon at this accident, that he committed suicide. The details are given in a long letter from Professor Artzrouni to the *Sémaine Médicale*, and the whole melancholy history has been laid before the St. Petersburg Medical Society by Professor Botkin.

<sup>1</sup> Bull. Gen. de Théor., December 15, 1886.

## MEDICAL NOTES.

— It is said that some 200 different cures for rheumatism have been sent to President Cleveland since his late illness.

— Dr. A. Favre, of Fribourg, says the same writer, describes an interesting case of rupture of the gravid uterus during labor at full term. It occurred in a pauper woman, aged thirty-three, who was suffering from osteo-malacia, with extreme contraction of the pelvis. The true state of things became evident only when laparotomy had been performed. A dead fetus and placenta with membranes were found floating in the peritoneal cavity, whilst the womb was firmly contracted to the size of a child's head. The site of the rupture could not be ascertained. The abdominal wound was closed by suture, no provision for drainage being made. Recovery took place without an unfavorable symptom, the highest recorded temperature being 38.5° C. on the third day. Fifteen days after delivery, the patient was up and about.

— The *New York Medical Journal*, after referring to the brilliant war of words that once took place between a Billingsgate fishwoman and a scholar, in which the latter made use of mathematical terms that his adversary could not match, cites, as not precisely in the same line, but evidently quite effective, an expression of disgust lately applied by a woman to a Paris policeman, "*Tu me fais l'effet d'une pilule!*" This pharmaceutical abuse was more than the policeman could endure, and the woman was brought before one of the police courts, where, according to a Paris dispatch to the *London Daily Telegraph*, she was acquitted on the ground that there were a thousand kinds of pills, the effects of which were of the most varied character, but she had not mentioned any particular kind. "So we may infer," the account continues, "that, had Ernestine Roussel compared her enemy to a blue pill, for instance, she would have been treated with more rigor."

## BOSTON.

— The statement in the recent address of the President of the College of Physicians of Philadelphia, that Rush "was the only physician whose name is on that energetic arraignment of the Crown" (the Declaration of Independence) should not pass unchallenged. Josiah Bartlett, of New Hampshire, and Lyman Hall, of Georgia, were successful practising physicians; Oliver Wolcott, of Connecticut, studied for the profession.

— The "Living Skeleton," pleasantly and familiarly known to some of the attendants at Dr. Holmes's anatomical lectures, has at last become a dead skeleton. Mr. Sprague, the individual in question, has just died, at the age of forty-six, and the weight of 40 lbs. He has bequeathed his remains to the Harvard Medical School, and it is to be hoped we shall soon know what was the missing link in his assimilative

system. The deceased was personally inclined, as we remember, after considerable association with admiring medical men throughout the country, to attribute his difficulty to atrophy of the thoracic duct.

— At the twenty-sixth annual meeting of the Obstetrical Society of Boston, held January 8th, 1887, the following officers were elected for the ensuing year: *President*, Dr. William L. Richardson; *Vice-Presidents*, Dr. O. W. Doe, Dr. John Homans; *Treasurer*, Dr. E. J. Forster; *Recording Secretary*, Dr. C. M. Green; *Corresponding Secretary*, Dr. J. Stedman; *Prudential Committee*, Dr. William Ingalls, Dr. J. G. Blake, Dr. F. W. Draper, Dr. J. W. Elliot, Dr. C. M. Green, *ex-officio*; *Publishing Committee*, Dr. Alfred Hosmer, Dr. J. R. Chadwick, Dr. C. E. Stedman. Dr. W. W. Wellington, of Cambridge, was elected an honorary member.

## NEW YORK.

— Mr. Cornelius Vanderbilt has given a donation of \$500 to the St. John's Riverside Hospital at Yonkers.

— Up to January 7th the returns from the Annual Hospital Saturday and Sunday collection show the handsome sum of \$36,464.

— The Commissioners of Charities and Correction have appointed Dr. E. C. Dent, Medical Superintendent of the City Insane Asylum on Blackwell's Island, and Dr. A. Trautman, Medical Superintendent of the Asylum on Ward's Island.

— Governor Hill, in his annual message to the Legislature, has again recommended the abolition of the State Board of Health and the State Board of Charities, and the concentration of the honors of these boards under single heads.

— The Committee on Hygiene of the Medical Society of the County of New York have waited upon the Board of Health in a body for the purpose of urging upon them the passage of an ordinance requiring the baling of all stable-manure in the city; the Board has as yet arrived at no decision in the matter.

— During the past week Joseph Mauri, a Brooklyn druggist, and his seven children were attacked with malignant hemorrhagic small-pox, and three of the children died within twenty-four hours. The true character of the disease was not recognized until after the death of the three children, when the father and remaining children were removed to the small-pox hospital at Flatbush, where the former died in a few hours. Considerable blame is attached to the Brooklyn sanitary authorities, as the three deaths occurring in such rapid succession were supposed at first to be attributable to poisoning of some kind, and the reporters of all the papers were permitted to visit the house and freely communicate with the family. It is needless to say that there has been a lively demand for vaccination by these gentlemen since, and in one newspaper office forty editors, reporters and composers were vaccinated. It is said that a pet cat owned

by the Mauri children, and which slept on the bed with two of them during their illness, has disappeared, and all efforts to trace it have proved fruitless. There has been a considerable amount of small-pox in Brooklyn for some months past.

### Miscellany.

#### HOW SOME SPECIAL HOSPITALS ARE FOUNDED.

THE *Hospital*, a weekly publication, the organ of the Hospitals Association of London, casts a not ill-aimed shaft at a tolerably common device of the young specialist who is looking for a job and who joins to himself a professional "organizer" to present the subject to a charitable public. The latter person evolves and circulates the following manifesto:

#### FREE DISPENSARY FOR DISEASES OF THE LITTLE TOE.

— Street, — Square.

In the year 1883, 30,807 persons died of diseases of the little toe. This number (which includes cases of gangrene, pyæmia, phlebitis, and bunion) is exclusive of the very numerous deaths from wasting diseases and cancer of the digit. (See *Registrar-General's Report*.)

According to the above extract, diseases of the little toe have occasioned more deaths in England than diseases of any other organ, and a comparison of the returns for 1883 with those of the previous years show that these diseases are increasing in a ratio greatly out of proportion to the increasing population.

#### Deaths from Diseases of the Little Toe.

1874.....13,446	1877.....17,908	1880.....21,915
1875.....15,401	1878.....19,634	1881.....30,940
1876.....15,009	1879.....20,879	1882.....24,802
1883.....	.....30,807	

Besides the above number of fatal cases, there is a still greater number of diseases of the little toe not terminating in death, but which give rise to extreme suffering and misery, especially among the poorer classes. *This is the only institution specially devoted to the treatment of diseases of the little toe, and the fact that in less than two years upward of 10,560 patients (from all parts of England) have been relieved, proves that it is a necessity. The employment of the newly invented instrument (the little-toe scalpel) is a special feature in the institution, and by the aid of this instrument morbid conditions of the digit can be fully exposed and adequately treated. Further aid is required to meet the urgent demands caused by the daily increasing number of out-patients. It is likewise essential that a ward should be speedily opened for the reception of the more acute cases. At least £1,000 is required to establish a ward containing six beds. For this purpose the committee have determined to open a new subscription list. Those who desire to assist in this particular way will please notify that their subscriptions or donations are to go to the "ward fund." The benevolent are respectfully informed that the very existence of the institution will be jeopardized unless the funds are considerably augmented.* JEREMIAH DIDDLEB, *Secretary*.

ice applied; during night convulsions affecting left side mainly; patient semi-unconscious for three days, and occasionally showing symptoms of irritation; wound discharged offensive matter for a few days, then healed; at the end of a week seemed nearly well; but fourteen days after the injury, vomiting occurred, followed by convulsions and high temperature. Condition on admission to hospital—Thin, pale, weak, peevish, irritable, restless; lies doubled up in bed; scar on right frontal region, with sinus, from which a small quantity of pus exudes; bare bone distinctly felt. Under an anæsthetic a free crucial incision was made over the seat of injury. A triangular piece of loose depressed bone was removed, permitting the escape of about a drachm of fetid pus. Dura mater thickened, but apparently uninjured. Parts thoroughly washed with carbolic lotion (one to twenty), and dressed with carbolized gauze. Hernia cerebri appeared on third day after operation. Next day child was anæsthetized and the wound enlarged, when another piece of dead bone was discovered and removed. The flaps of skin were stitched over the hernia to repress it. Child somewhat better. After this the child did well, and was discharged two months after the injury apparently quite well, but with a sinus still remaining, which discharged some pus. On 1st August, five months after the injury, the child had an attack of convulsions affecting the left side. The face most marked, and the upper more than the lower extremity. She was at once removed to the hospital. Under an anæsthetic a fine silver probe was easily passed straight into the brain substance for about an inch. It was withdrawn quite black. A grooved director was then passed in the same manner, when a gush of very fetid pus took place. The opening was carefully enlarged, the abscess cavity washed out with one to forty carbolic lotion, a drainage-tube inserted and left in. The direction of the sinus was downwards, backwards, and inwards. The drainage-tube was filled with carbolic lotion, which was seen to rise and fall with each pulsation of the brain. After the operation there was left-sided hemiplegia. Six hours after this the child had regained consciousness, and next day the hemiplegia had disappeared. The abscess was washed out daily through the drainage-tube which was shortened on the ninth and taken out on the fourteenth day. Patient was discharged perfectly well five weeks after the opening of the abscess. One month after discharge she was in usual health.

#### PROPAGATION OF MEASLES BY HEALTHY PERSONS.

FROM an editorial of *Le Concours Médical*, June 12, 1886, the *Therapeutic Gazette* (November 15) abstracts the following observations:

The possibility of carrying the contagious principle of measles from place to place by the medium of the bodies of healthy persons was recently discussed by the Medical Society of Berlin, and one gentleman, Joel, of Lausanne, presented certain facts which lead to the belief that such a possibility does exist, and that the medium is often furnished by the physicians themselves. One case which was cited was that of a boy who was brought from Geneva to Lausanne while he was passing through the incubation stage of measles. The butcher and the postman who served the institu-

#### CASE OF COMPOUND COMMUNUTED FRACTURE OF SKULL; HERNIA CEREBRI; ABSCCESS; RECOVERY.

DR. W. ODILLO MAHER, of Sidney, reports in the *Australasian Medical Gazette* for December, 1885, a most remarkable and interesting case of head injury, which is summarized in the *Edinburgh Medical Journal* (November, 1886). F. M., aged four and one-half years, fell off a balcony twelve feet on to asphalt. Unconscious when taken up; vomited blood; bleeding from nose; small lacerated wound on right frontal eminence; fracture of frontal bone; brain substance between edges of bone; wound dressed with iodoform and wool; mercurial purge ordered, head shaved, and

tion to which the boy was brought conveyed the disease to their children, who were attacked with it in a short space of time, and, what is quite remarkable, the children in almost every house to which the postman delivered letters were attacked. A little girl was brought to a hospital, and in a few days had undoubted symptoms of measles. Her father had paid her several visits before the measles appeared, and it was ascertained that two of his children were suffering at his home from the disease. Eight other children in the hospital were quickly seized with it.

It is thought that physicians cannot always avoid carrying the contagion with them, even when extraordinary care is taken. Prophylactic means on the part of the physician should be as thorough as possible, however, by disinfection, change of garments, and all other available procedures.

#### SPONTANEOUS RUPTURE OF THE UTERUS DURING PREGNANCY.

At a recent meeting of the London Medical Society (*Lancet*, November 13), Dr. A. H. N. Lewers read a paper on "Rupture of the Uterus during Gestation." It is an accident of rare occurrence, and its causation is but little understood. A study of nineteen recorded cases led Dr. Lewers to express the opinion that "spontaneous" rupture during pregnancy was in-

variably due to "interstitial" gestation. He described a case that occurred in his own practice at the London Hospital, in which a multipara, believed by herself to be in the fifth month of gestation, suddenly became ill with severe pain in the abdomen, vomiting, and collapse. Abdominal section was performed, and then the fetus and placenta were discovered in the peritoneal cavity, and a rent in the fundus of the uterus was detected at the outer part on the left side. The post-mortem examination showed that the rent in the uterus involved that part of the wall through which the left Fallopian tube passed. The case was not one, therefore, of genuine rupture of the uterus, for the fetus had never occupied the uterine cavity. Dr. Lewers considered that spontaneous ruptures of the uterus attributed to pathological softening of the wall were of doubtful occurrence. He thought, also, that cases of genuine spontaneous rupture should be kept apart, and not placed in the same category as those where rupture of the uterus occurred during premature labor, or in criminal attempts at the production of abortion, or from direct violence. There was nothing in the records of cases of spontaneous rupture to militate against the suggestion he desired to make—that spontaneous uterine ruptures are invariably cases of "interstitial" gestation. He submitted that where the symptoms pointed clearly to the occurrence of the accident, exploration of the abdomen was the correct surgical treatment.

#### REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 1, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Typhoid Fever.	Diph. & Croup.	Measles.
New York . . . . .	1,439,039	764	329	21.84	22.75	.91	8.45	8.45
Philadelphia . . . . .	971,363	389	108	8.12	15.40	2.52	4.20	.28
Brooklyn . . . . .	690,000	—	—	—	—	—	—	—
Chicago . . . . .	630,000	—	—	—	—	—	—	—
Boston . . . . .	380,406	201	70	6.34	27.93	.49	1.96	1.77
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,220	133	49	10.50	8.25	3.00	4.50	—
Cincinnati . . . . .	325,000	—	—	—	—	—	—	—
New Orleans . . . . .	238,000	121	23	14.94	24.07	—	4.15	—
Buffalo . . . . .	202,818	—	—	—	—	—	—	—
District of Columbia . . . . .	205,000	70	25	7.62	19.05	3.81	1.27	—
Pittsburgh . . . . .	190,000	74	33	28.35	39.15	1.35	8.10	12.65
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	118,070	—	—	—	—	—	—	—
New Haven . . . . .	78,000	—	—	—	—	—	—	—
Nashville . . . . .	60,000	—	—	—	—	—	—	—
Charleston . . . . .	60,145	31	8	—	9.69	—	—	—
Worcester . . . . .	68,383	26	10	11.55	42.35	3.85	3.85	—
Lowell . . . . .	64,051	31	15	19.38	16.15	—	6.46	12.92
Cambridge . . . . .	59,600	24	16	16.60	4.15	8.30	4.15	—
Fall River . . . . .	56,863	17	14	16.66	17.64	—	—	—
Lynn . . . . .	45,861	13	15	—	13.33	—	—	—
Lawrence . . . . .	38,825	13	15	—	15.38	—	—	—
Springfield . . . . .	37,577	7	7	14.28	—	—	14.28	—
New Bedford . . . . .	33,363	14	6	7.14	17.14	—	—	—
Somerville . . . . .	29,992	—	—	—	—	—	—	—
Salem . . . . .	28,084	13	1	—	—	—	—	—
Holyoke . . . . .	27,894	—	—	—	—	—	—	—
Chelsea . . . . .	25,709	15	6	6.66	13.33	—	6.66	—
Taunton . . . . .	23,674	5	1	—	40.00	—	—	—
Haverhill . . . . .	21,795	—	—	—	—	—	—	—
Gloucester . . . . .	21,713	—	—	—	—	—	—	—
Brockton . . . . .	20,783	—	—	—	—	—	—	—
Newton . . . . .	19,759	—	—	—	—	—	—	—
Malden . . . . .	16,407	—	—	—	—	—	—	—
Fitchburg . . . . .	15,375	6	0	33.33	16.66	16.66	—	—
Waltham . . . . .	14,609	2	0	—	—	—	—	—
Newburyport . . . . .	13,716	1	0	—	—	—	—	—
Northampton . . . . .	12,806	2	0	—	—	—	—	—
Massachusetts Towns . . . . .	—	—	—	—	—	—	—	—

Deaths reported 1,958: under five years of age 709; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 292; lung diseases 291, consumption 273, diphtheria and croup 109, measles 82, typhoid fever 29, diarrhoeal diseases 28, malarial fever 13, scarlet fever eight, cerebro-spinal meningitis seven, whooping-cough seven, erysipelas seven, puerperal fever two. From diarrhoeal diseases, New York 11, New Orleans eight, Boston four, Pittsburgh, Lowell, Worcester, New Bedford and Fitchburg one each. From malarial fever, New York six, New Orleans five, Baltimore and District of Columbia one each. From scarlet fever, New York and Philadelphia three each. Boston and Gloucester one each. From cerebro-spinal meningitis, New York, five, Fall River two. From whooping-cough, New York and Baltimore two each. Philadelphia, District of Columbia and Pittsburgh one each. From erysipelas, New York four, Pittsburgh three. From puerperal fever, Baltimore and Cambridge one each.

In the 20 cities and greater towns of Massachusetts, with a population of — (population of the State 1,941,465) the total death-rate for the week was 21.77 against 20.50 and 21.05 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,935,817, for the week ending December 18th the death-rate was 20.7. Deaths reported 3,605; infants under one year of age 813; acute diseases of the respiratory organs (London), 416; measles 141, scarlet fever 77, whooping-cough 54, diphtheria 37, diarrhoea 34, small-pox (London) one.

The death-rates ranged from 11.9 in Derby to 37.1 in Preston; Birmingham 17.1; Blackburn 25.9; Hull 18.8; Leeds 23.5; Leicester 25.8; Liverpool 27.6; London 18.8; Manchester 25.9; Newcastle-on-Tyne 24.6; Nottingham 18.5; Sheffield 17.1.

In Edinburgh 18.2; Glasgow 27.0; Dublin 29.6.

For the week ending December 18th, in the Swiss towns there were 38 deaths from consumption, lung diseases 31, diarrhoeal diseases 10, diphtheria and croup five, measles four, whooping-cough, typhoid fever and puerperal fever each one.

The death-rates were: at Zurich 13.4; Geneva 19.2; Basle 17.8; Berne 26.4.

The meteorological record for the week ending January 1, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Jan. 1, 1887.	Barom- eter.	Thermometer.		Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather.			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount in Inches.
Sunday, ... 26	30.196	29.0	25.0	13.0	69.0	71.0	81.0	N.	N.	17	8	8	O.	O.	O.	—	—
Monday, ... 27	30.029	29.0	26.0	20.0	75.0	64.0	65.0	S.W.	N.	3	18	12	O.	C.	C.	—	—
Tuesday, ... 28	30.227	21.0	25.0	16.0	79.0	47.0	54.0	W.	W.	10	17	12	C.	C.	C.	—	—
Wednesday, ... 29	30.200	19.0	25.0	11.0	58.0	43.0	53.0	W.	N.W.	N.E.	12	14	C.	F.	C.	—	—
Thursday, ... 30	30.445	11.0	14.0	6.0	62.0	46.0	77.0	N.	N.	N.E.	16	19	N.	N.	N.	—	—
Friday, ... 31	30.093	22.0	34.0	10.0	75.0	100.0	90.0	N.E.	N.	8	12	10	N.	N.	N.	—	—
Saturday, ... 1	29.526	34.0	37.0	27.0	100.0	95.0	82.0	N.E.	W.	W.	6	13	R.	O.	O.	40	1.01
Mean, the Week.	30.124	22.0	27.4	14.7			72.4										

1 O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 1, 1887, TO JANUARY 7, 1887.

RAYMOND, H. I., first lieutenant and assistant surgeon. Ordered for duty at Presidio of San Francisco, Cal. S. O. 127, Department of California, December 29, 1886.

#### SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. OBSTETRIC AND GYNÆCOLOGICAL SECTION.—There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, January 19th, at 7.45 o'clock. Dr. J. S. Greene, of Dorchester, will report "Three Cases of Labor, two being Breech, and the other Arm Presentation, where the Legs were extended, and the Feet were near the Face." Dr. Edward Reynolds will report "A Case of Difficult Labor." Refreshments after the meeting.

JAMES R. CHADWICK, M.D., Chairman.  
ROBERT B. DIXON, M.D., Secretary.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY.—A regular meeting for medical improvement will be held at the Woodland Park Hotel, Auburndale, at 4 o'clock, P.M., on Wednesday, January 19th, 1887. Dr. T. H. Gage, President of the Massachusetts Medical Society, will read a paper on "Middlesex and Worcester Physicians of Ninety Years ago." Papers will be read on "Radical Gynecology," by Dr. E. D. Hooker; "Conservative Gynecology," by Dr. W. Preble. The discussion will be opened by Drs. A. Worcester and J. T. G. Nichols. Dr. F. E. Porter will report a case of clinical interest. Trains leave Boston and Albany Station in Boston at 3.05 and 3.45 o'clock, P.M., for Auburndale. Dinner at 6 o'clock, P.M. Telephone number of Hotel, 8101.

WALTER ELA, Secretary.

#### BOOKS AND PAMPHLETS RECEIVED.

Is Tubercular Consumption Inherited? By H. D. Didama, M.D. Syracuse, N. Y. 1885.

A Contribution to the Study of Tumors of the Spinal Cord. By B. Sachs, M.D. 1886. (Reprint.)

A Skull of a Navajo Child. By R. W. Shufeldt, M.D., Captain Med. Corps, U. S. Army. 1886. (Reprint.)

The Infectious Diseases in their Relations to the Public Schools. By L. W. Baker, M.D., Baldwinville, Mass. (Reprint.)

Osteological Note upon the Young of Geococcyx Californianus. By R. W. Shufeldt, C.M.Z.S., Captain Med. Corps, U. S. Army. 1886. (Reprint.)

Thirty-first Annual Report of the Trustees of the Northampton Lunatic Hospital. For the Year ending September 30, 1886. Boston. 1887.

A Contribution to our Knowledge of Fever and of the Agents which produce or arrest it. By Drs. H. C. Wood, E. T. Reichert, and Hobart A. Hare. Detroit, Mich. 1886.

Pleurotomy for Empyema: Recovery. By F. C. Fernald, M.D. (Harvard), of Washington, D.C. Read before the Medical Society of the District of Columbia, on October 20, 1886. Chicago, 1886. (Reprint.)

Årsberättelse (den Sjunde) Fran Sabbatsbergs Sjukhus i Stockholm. For 1885. Afgifven af Dr. F. W. Warfvinge, Sjukhusets Direktör och Överläkare vid dess medicinska afdelning. Stockholm. 1886.

The Social Waste of a Great City. A Paper read before the American Association for the Advancement of Science, at its Annual Meeting in Buffalo, August 20, 1886. By Louis L. Seaman, M.D., LL.B., Late Chief of Staff Charity, Maternity, Penitentiary, Epileptic, and Paralytic Hospitals, B. I.; Member of the A.A.A.S. New York. 1886. (Reprint.)

## Original Articles.

THE AMBLYOPIA OF SQUINT.<sup>1</sup>

BY O. F. WADSWORTH, M.D.

THE theory that the amblyopia so prevalent in strabismus is the result of a suppression of the image formed in the squinting eye, in order to avoid the confusion excited by double vision, was for a long time universally accepted and was upheld by the authority of the leaders in ophthalmology. This amblyopia was regarded as a form by itself and given the name of *amblyopia ex anopsia*.

Schweigger, in his handbook, published in 1871, denied that the amblyopia is so produced, and asserted that it is on the contrary a congenital defect; and Alfred Graefe, in 1875,<sup>2</sup> retracted the opinions he had formerly expressed, and gave in his adhesion to Schweigger's views.

By the early part of 1876, I had, from observations made during the previous few years, convinced myself that *amblyopia ex anopsia*, so called, did not exist, and believed at first that I was alone in this conviction. Examination of the literature of the subject, preparatory to a paper, showed me that Schweigger and Graefe had preceded me, and had presented the matter so much more fully and so much better than I could hope to do with my limited material that I immediately abandoned the idea of writing.

A little later, in 1877, Leber<sup>3</sup> strongly upheld *amblyopia ex anopsia* against the assaults of Schweigger and Graefe, without, however, presenting anything new.

Again, in 1881, Schweigger published a masterly monograph on strabismus, based on the observation and statistics of a large number of cases, in the course of which he argued more at length against the suppression-amblyopia theory.

If I now, at this late date, bring the subject to your attention, it is because what I regard as an erroneous doctrine still is widely prevalent, and is taught by most of the recent text-books. At the last meeting of the American Ophthalmological Society Dr. Theobald read a paper in its support.

Before going farther, it should be said that, in many cases, opacities of cornea, lens or vitreous, or changes in the fundus, sufficient to account for the amblyopia present, are found in the squinting eye. With such cases as these the discussion need not concern itself.

The importance of the question is not merely theoretical. If *amblyopia ex anopsia* is a fact the practical treatment of squint should be greatly influenced by it. If a squint persisting for a few months, as some of the advocates of the doctrine assert, is sufficient to bring about a pronounced and permanent defect of vision in the squinting eye, it should be our duty in all cases to operate for its removal as early as possible. In all cases, at least, in which no visible lesions, ample of themselves to prevent a useful amount of vision, are present. If, on the other hand, persistence of the squint does not cause amblyopia, we may postpone operation with advantage till such time as it is possible to determine any errors of refraction that may exist, and, by correcting these

errors by appropriate glasses, assist the effect of the operation. That errors of refraction do exist in a large majority of cases every one admits.

The chief hindrance to a decision of the question which shall be generally accepted is the fact that at the early age at which strabismus usually begins (two to four years) it is in most cases impossible to obtain any satisfactory evidence as to the amount of vision; and, on the supposition that a few months of squint are enough to cause a decided loss of sight, by the time the child is of an age to admit the application of convincing tests it is too late to settle the dispute as to whether a defect then discovered is congenital or acquired. Again, if when the tests can be made no defect be found, as not seldom happens, the advocates of *amblyopia ex anopsia* claim that this is accounted for by the circumstance that the squint has not been monolateral, that sometimes the habitually deviating eye has been used, and there has been therefore no continuous suppression.

On the other hand, it is to be said that no satisfactory evidence of deterioration of vision in a good eye after squint has appeared has been presented. Theobald<sup>4</sup> says of this, "that there are scores of cases recorded in the note-books of ophthalmic surgeons in which there has been observed a progressive decline in the vision of squinting eyes, I do not for a moment doubt." That he has record of none such himself is evident. But he cites Roosa<sup>5</sup> as reporting one case of this character. Roosa<sup>5</sup> gives this case, in which the records of vision were made at an interval of four years by two different assistants, as "the only case that I have personally seen, where any color is given to the theory of amblyopia, or deterioration of vision from disuse of the eye." But he also states that the results of the analysis of all his cases give no support to the *amblyopia ex anopsia* theory.

Even one case carefully observed deserves respectful consideration. But in the case here quoted there is not, it seems to me, sufficient guarantee against possible mistake. And the mistake may have occurred in either of two directions; the first observer may have overestimated the vision of the squinting eye, or the second observer underestimated it. Any one who has had much experience in testing vision must have recognized the liability to error in the examination of young children, and this liability is decidedly increased when we have to do with a squinting eye.

Let me illustrate. A child of some nine years of age with convergent strabismus was examined by my assistant. The letters of XX were read at 20' first by the non-squinting, then by the squinting eye, thus apparently showing V. =  $\frac{3}{8}$  in each. Then, at my suggestion, all the letters of XX were read backward, without mistake, by the squinting eye. Yet on covering the test card so that only one letter could be seen at a time, letters of XL were the smallest that this eye could recognize. Its vision was, in fact, only  $\frac{3}{8}$ . The letters had been unconsciously committed to memory when they were read by the good eye. Here, if the examination had been pushed less far we should have overestimated the vision, and a few years later re-examination might have shown progressive deterioration of vision in a squinting eye.

Another example demonstrates how vision may be underestimated at a subsequent examination. A girl

<sup>1</sup> Read before the Boston Society for Medical Improvement, December, 1886.

<sup>2</sup> Graefe and Saemisch, VI.

<sup>3</sup> Graefe and Saemisch, V.

<sup>4</sup> Trans. of Am. Ophth. Soc. IV, 2, p. 284.

<sup>5</sup> The Results of the Operation for Convergent Squint. Transactions of the Med. Soc. of the State of New York, 1886.

of six years, with marked convergence of the left eye since the age of two and one-half. Under the influence of duboisia, V. =  $\frac{1}{16}$  in each eye. The test was made with every precaution, the non-deviating eye being effectively bandaged, and a card taken for the testing of the squinting eye which the child had never before seen. Tenotomy of left internus under ether, with decrease, but not correction of the convergence. Eight months later the best vision that I could get was R.  $\frac{1}{16}$ , L.  $\frac{1}{16}$ . There was apparently decided diminution of vision in both eyes, greater in the squinting eye. The child was of a very nervous temperament, and after the tenotomy always became excited whenever a visit to me was suggested. I entertain no doubt that the deficiency of vision found at the later test was due to the mental disturbance and excitement which then existed.

Even in adults it is by no means always easy to determine accurately the amount of vision. A lady of forty-two years had had a strong convergent squint of the right eye since the age of nine. She had been an invalid for a long time. On repeated examination on different days, both without and with atropine, the best vision obtained was R.  $\frac{1}{16}$  —, L.  $\frac{1}{16}$  —. Seven months later, her general health having meanwhile improved, but the squint remaining the same, there was found R. V. =  $\frac{1}{16}$ , L. V. =  $\frac{1}{16}$ .

The two main arguments on which the supporters of acquired amblyopia rely are, (1) the peculiar character of the defect of vision, (2) the asserted fact that a visual defect of like character is rarely if ever found without squint.

Let me state their thesis. The peculiarity of the amblyopia consists in this: with no visible change in the eye, a perfectly normal appearance of the fundus, and without any narrowing of the boundary of the visual field, there is impaired function of the region of the macula and all those parts of the retina which receive images of objects situated in the common visual field.

In order to avoid the bewilderment caused by the double images which are induced by the faulty direction of the squinting eye, the impressions received through it are persistently suppressed, and the attention is concentrated on the impressions received through the other. The process is the same as when we apply one eye to the microscope or ophthalmoscope and, keeping the other open neglect the images formed on its retina. In strabismus, however, the suppression of the images is not merely temporary, but continuous, and causes a blunting of the function of the retina or of the corresponding visual centres in the brain. Only the peripheral portion of the nasal half of the retina, not being concerned with the common visual field, is exempt from this influence and unaffected.

At the early age at which squint generally begins a few months of suppression may be enough to produce a high degree of amblyopia, yet the longer the suppression has persisted the greater is the deterioration of sight. Theobald<sup>6</sup> assents to this last as a rule, but assumes that structural changes take place in the visual centres,<sup>7</sup> and that when the suppression "has produced such a degree and such a kind of amblyopia as shall do away with the discomforts of double vision, its purpose is accomplished, and it probably ceases to be operative."

<sup>6</sup> Loc. cit., p. 281.

<sup>7</sup> Loc. cit., p. 283.

In alternating strabismus the suppression is not constant, and therefore amblyopia does not result.

This is, I believe, a fair statement of the theory. How is it borne out by the facts? If it be true, then the amount of amblyopia found in squinting eyes should be approximately the same, or, if the element of time is to be considered, its degree should show some correspondence with the length of time the deviation has existed. No one has ventured to offer an estimate of the least amount of amblyopia that is capable of satisfying the suppression theory.

Schweigger<sup>8</sup> has given statistics of the refraction and vision of several hundred cases of strabismus. He found vision less than  $\frac{1}{4}$  in about 30 % of the squinting eyes, but makes no subdivision between normal vision and V. =  $\frac{1}{4}$ .

Hospital cases, treated as out-patients as they generally are, rarely are recorded or examined with sufficient accuracy of detail to furnish available statistics.

I have taken the cases of strabismus occurring in the records of my private practice. All those in which changes in the fundus, or opacities of the media, might account for the defective sight, and all in which the youth of the patient or other cause prevented the determination of the vision and satisfactory examination of the retina have been thrown out as useless for the purpose in hand. With this exception only, four cases in which the vision of each eye was recorded, but there was no note as to the fundus, have been included, but in each of these the vision of the two eyes was nearly alike and fairly good,  $\frac{1}{16}$  to  $\frac{1}{8}$ .

There remained 57 cases of convergent strabismus.

Five of these had divergence when they came to me: 4 following operation for convergence; 1, at 23, M.  $\frac{1}{16}$  and V. =  $\frac{1}{16}$  in one eye, H.  $\frac{1}{16}$  and V. =  $\frac{1}{16}$  in the other, had changed spontaneously from convergence. Three were nearly or quite straight, after tenotomy. Five were alternate, 4 periodic, 47 monolateral.

In 15 cases (26 %) (4 alternate, 1 periodic) V. was precisely the same in each eye; in 7 of these (2 alternate, 1 periodic) V. =  $\frac{1}{16}$  to  $\frac{1}{8}$ .

In 9 cases (16 %) (1 alternate) the difference between the vision in the two eyes was not greater than that between  $\frac{1}{16}$  and  $\frac{1}{8}$ .

The poorest V. in these 24 cases was in a case of M. with slight nystagmus, R. —  $\frac{1}{16}$ , V. =  $\frac{1}{16}$ , L. —  $\frac{1}{16}$  —  $\frac{1}{16}$  cyl., V. =  $\frac{1}{16}$ .

Of the remaining 33 cases, V. in the squinting eye was:  $\frac{1}{16}$  to  $\frac{1}{8}$  7 (12 %):  $\frac{1}{8}$  to  $\frac{1}{4}$  8 (14 %):  $\frac{1}{4}$  to  $\frac{1}{2}$  7 (12 %) (3 periodic):  $< \frac{1}{16}$  to counting fingers at 15" 11 (20 %).

The poorest V. in the non-squinting eye was  $\frac{1}{16}$ .

The same selection as before gave 11 cases of divergent strabismus: 1 alternate, 2 periodic, 8 monolateral.

In 5 (45 %) (1 alternate, 2 periodic) V. was alike in the two eyes,  $\frac{1}{16}$  to  $\frac{1}{8}$ .

Of the other 6 cases, V. in the squinting eye was:  $\frac{1}{16}$  to  $\frac{1}{8}$  2 (18 %):  $\frac{1}{8}$  to  $\frac{1}{4}$  2 (18 %):  $\frac{1}{4}$  to  $\frac{1}{2}$  1 (9 %): fingers 5' 1 (9 %): both the last two cases having As.  $\frac{1}{2}$  with ophthalmoscope.

Lowest V. in non-squinting eye  $\frac{1}{16}$  —  $\frac{1}{8}$ , with M.  $\frac{1}{16}$ .

Uniting all the cases they give 30 % with V.  $< \frac{1}{4}$

<sup>8</sup> Klinische Untersuchungen ueber das Schielen. Berlin, 1881.

( $\frac{1}{16}$ ), practically the same percentage as found in Schweigger's much more extensive statistics.

These cases are not numerous, but I believe they are fairly reliable. The only error probable is that in a few the full amount of vision may not have been obtained; certainly it was not over-estimated.

The statistics here given seem to offer little encouragement to the theory of *amblyopia ex anopsia*. Half the patients had in the squinting eye V. at least  $\frac{1}{16}$  to  $\frac{1}{8}$ , leaving out of the calculation two with vision somewhat less than this, but alike or nearly alike in both eyes. It is certainly common enough to find vision as low as  $\frac{1}{16}$  in eyes without squint and without visible change; more than half the cases then must be considered to have escaped the evils of suppression.

It is said, however, that the instances in which vision is not greatly decreased may be easily explained on the supposition of an occasional alternation, that this is sufficient to preserve the function intact. I can hardly believe it has been expected that this supposition should account for some half of the cases. If the explanation be admitted, how shall we account for the fact that in three of my patients the eyes were sometimes straight, both by the statement of parents and by my own observation, and yet vision was only  $\frac{1}{16}$  to  $\frac{1}{8}$  in one eye. All the three had like refraction in the two eyes (two hypermetropic, one emmetropic), all measured with the ophthalmoscope as well as with glasses, two under homatropine. The emmetrope, a boy of seven years, had, three years earlier, before he knew his letters, evidently imperfect sight of one eye.

It is asserted also that a difference in the refraction, by causing the images formed on one retina to be indistinct, facilitates suppression. This may be fully granted without at all helping the theory. The question is not whether there is suppression, suppression of some sort there must be else we should have double vision, but whether the suppression causes amblyopia.

On the other hand, Theobald brings forward differences of refraction as a hindrance to amblyopia. He says, "the non-development of amblyopia in exceptional instances is easily explained without the necessity of abandoning the suppression theory, a marked difference in the refraction of the eyes being competent to produce this result, because the indistinct retinal image which the squinting eye receives under such circumstances causes less confusion and is, therefore, less apt to be suppressed."

Both views can hardly be true. With regard to the latter one, four of my cases with monocular amblyopia (V. =  $\frac{1}{16}$  to counting fingers at 2') had, three of them As.  $\frac{1}{2}$  to  $\frac{1}{4}$ , the fourth a high degree of myopia and As. in the squinting eye, measured with the ophthalmoscope. The marked difference in the refraction did not protect here. Nor did it protect in a fifth case with M.  $\frac{1}{16}$  and V. =  $\frac{1}{8}$  in one eye, H.  $\frac{1}{8}$  and V. =  $\frac{1}{8}$  in the other.

Another supposition of Theobald, already quoted, that the suppression probably ceases to be operative when it has produced a certain degree and kind of amblyopia, accords poorly with the great variability in the amount of the visual defect which the statistics have shown.

To answer the second argument, that monocular amblyopia without visible change is rarely if ever

found in non-squinting eyes, I refer again to my records. The indexes of my case books do not make the selection of these cases so easy as those of strabismus, yet I have readily found 15 cases, in which the eyes were perfectly normal in appearance, which had never squinted, but had monocular amblyopia ranging from V. =  $\frac{1}{16}$  to  $\frac{1}{8}$ , five of them with V. <  $\frac{1}{8}$ . The vision of the better eye was in only one of the fifteen cases so low as  $\frac{1}{16}$ , in one other so low as  $\frac{1}{8}$ ; while of the five cases with V. <  $\frac{1}{8}$ , in but one had the better eye so little vision as  $\frac{1}{16}$ .

Moreover, I have excluded from this series cases with excessive degrees of H. or M., or with more than the lowest degrees of astigmatism, to avoid the possible objection that the amblyopia was due to the same faulty development which caused the refractive error. Had such cases been admitted the list could have been easily extended, and it is to be noted that several such cases are found among the amblyopic squinting eyes.

Further, squint is a personal blemish, patent to all observers, and naturally sends the patient to the physician; congenital monocular amblyopia is not apparent, is often neglected, often discovered only accidentally and late in life.

A man of fifty-one years came to me because he had, two or three weeks before, accidentally found his right eye imperfect. Both eyes were quite normal in appearance, externally and internally. R. V. =  $\frac{1}{16}$ ; L. V. =  $\frac{1}{8}$ ; H.  $\frac{1}{8}$  in both. On inquiry, I learned that as a boy he had used the left eye in shooting, because, as he said, "I could never close the left eye well and see well with the right." Yet only lately had he realized that the right eye had imperfect sight.

The second argument, then, is evidently based on faulty or limited observation. Nor need it weaken the force of this statement if monocular amblyopia is found in larger proportion among those who squint than among those who do not. Donders,<sup>10</sup> at the same time that he pointed out the influence of hypermetropia in convergent squint, also showed that imperfection of vision in one eye rendered the occurrence of squint more easy.

One other argument needs to be noticed: It has been frequently claimed that a marked improvement in the sight of the squinting eye often occurs immediately, or in a short time after it has been straightened by tenotomy, and this asserted fact has been adduced as evidence that the amblyopia could not have been congenital.

Perhaps the extravagance to which this claim has been pushed never reached a greater height than when, two or three years ago, an oculist reported a case in which, as he asserted, the squinting eye had not even perception of light, but after it had been straightened by operation, acquired by exercise a considerable amount of vision.

Leber<sup>11</sup> states: "In the lesser degrees of amblyopia from disuse, where central vision has not yet been wholly lost, great improvement or complete restoration may be effected by practice"; and on the following page: "Very remarkable are the cases where tenotomy brings about an immediate improvement of a very high degree of amblyopia, which, therefore, certainly must have been caused and maintained by the squint—cases which still need an explanation."

<sup>10</sup> "On the Anomalies of Refraction and Accommodation of the Eye," p. 295, 296. London, 1864.

<sup>11</sup> Loc. cit., p. 1014.

<sup>9</sup> Loc. cit., p. 281.

He gives as an example a case reported by Knapp<sup>12</sup> in 1863, in which, directly after operation, vision was said to have risen from  $\frac{1}{4}$  to  $\frac{1}{2}$ . Then, after some further discussion of these cases, he goes on to say: "Sometimes, also, the strabismics find the right use of their eyes even before the tenotomy; I have seen cases in which, during my testing, the at first greatly reduced vision, within a few moments improved almost as remarkably as in the above-mentioned case after the squint operation." The hollowness of the evidence that straightening the eye causes an increase in its vision could hardly, I think, be better illustrated.

One would think that such experience as this would have awakened attention to the liability of mistake, and the necessity of careful and repeated testing of the squinting eye before deciding on its actual amount of vision, or assuming an improvement from the operation. Leber seems, indeed, to have had some inkling that the unaccustomed strain on the muscles needed to bring the squinting eye into correct fixation may have interfered with the proper concentration of the attention on the visual act. But it evidently did not occur to him that the theory of amblyopia from suppression demands a continuous, not an intermittent amblyopia; not an amblyopia which is present only so long as the attention of the squinter is absorbed by something other than the letters which he is called on to read.

This experience of Leber offers a key to the whole matter, not simply that an unaccustomed strain on the muscles accompanies the attempt to see—that is only one of the factors involved—but the secret of the apparent improvement observed after tenotomy is found in the lack of sufficiently careful previous examination. When vision has been exhaustively tested before tenotomy, no real improvement is found after it.

The facts, that a not inconsiderable proportion of strabismics have vision alike or nearly alike in the two eyes even when, according to all the evidence attainable, the squint is strictly monolateral; that in a consideration standard; that only about 30 % of squintable number of other cases the amblyopia of the squinting eye is not of high degree, while in some of these vision of the non-squinting eye is also below the normal, among them many with high degrees of astigmatism or other refractive error, have vision less than  $\frac{1}{2}$ ; and finally, that there are many persons with congenital monocular amblyopia of equally high degree who do not and never have squinted, make it a reasonable requirement that, before the theory of suppression-amblyopia be accepted, some positive evidence of its existence, something more than a mere hypothesis, should be brought forward to support it.

There is, however, a condition of functional disability often found in squinting eyes which is dependent on the squint, and is in many cases capable of remedy. But it is not by any means peculiar to squint; it is not necessarily accompanied by a reduced acuteness of vision; correction of the deviation is not required for its removal; and when it is removed, acuteness of vision is no greater than it was before.

It consists in an incapacity for continuous use of the amount of vision which the eye possesses, and is due to long-continued want of exercise of the function. It may be overcome by separate practice of the eye. It is found also without squint when one eye has such an error of refraction that at all times very indistinct images are formed upon its retina. Such an eye may

take part in binocular vision to a certain extent, and aid in the estimation of distance; but if its error of refraction be corrected and it be called on to read it will give out speedily, yet, with practice, it may learn to read fluently and continuously. Clearly, this condition is widely different from that which has been described as amblyopia from suppression.

#### SOME CASES OF ALTERNATING INSANITY WITH ONE CASE OF RECOVERY.

BY EDWARD R. LANE, M.D.,  
Assistant Superintendent, Boston Lunatic Hospital.

BETWEEN the years 1851 and 1854, Falret and Baillarger, two French alienists, described independently of one another, a class of cases of an interesting form of insanity.

In these cases the opposite conditions of mania and melancholia or of excitement and depression succeeded each other with a certain amount of regularity.

To this form of insanity Falret gave the name of *Folie Circulaire*; while Baillarger, his rival for scientific honors, called it *Folie à double forme*.

The two names mean essentially the same thing, although certain later writers, anxious to recognize the claims of each observer, have tried to make a subdivision in the cases of alternating insanity, giving to two distinct groups the names of *Folie Circulaire* and *Folie à double forme*, but they have not been successful.

The disease *Folie Circulaire* as described by the French authorities mentioned, and later writers, is characterized as follows:

Periods of mania, depression and sanity follow each other with a certain amount of regularity, either in the order named, or the mania may follow the depression. In a certain number of cases there is no sane period. There may be the greatest variety in the length of the periods, although in a given case there is a certain amount of uniformity in the length of each cycle. Both the mania and the melancholia seen in this disease are described as having a peculiar phase of their own.

The mania is not accompanied with delirium, the intellect is not impaired. There is rather great exhilaration and activity, both mental and physical, with a perversion of the moral sense; in short, the condition described by the French as *folie raisonnée*.

The melancholia, on the other hand, is a stuporous condition, rather than a condition of great mental pain. The organic functions are impaired and the bodily condition is the reverse of that of the excited stage.

The depression usually lasts longer than the excitement, which it usually follows. During the excitement there is seen increased sexual feeling. There is a hereditary tendency in the majority of cases.

The disease does not tend to progress to dementia. The prognosis is highly unfavorable so far as a cure goes. It is not believed that life is shortened by the disease.

The cases here reported have seemed to me to belong to the group of cases described as *folie circulaire* and are interesting as showing the great variety

<sup>12</sup> Monatsbl. für Augenheilk., I, 474-478.

<sup>1</sup> Read before the Boston Medico-Psychological Society, October 21, 1886.

in individual cases of mental disease, and in their variations from what may be called the typical cases.

The first case I shall read I have ventured to call one of recovery. I cannot hope that the patient will go through life with no more mental trouble, as I believe the disease to be essentially one of degeneration, but as recoveries in mental disease go this seems like one.

CASE I. Miss M. E. C., born in Boston of Irish parentage. No insanity known in the family. Her mother is subject to asthma. Was considered a bright scholar until twelve years of age. She then began to have severe headaches, which so interfered with her school work that she was unable to keep up with her class.

Two years later she became subject to periods of depression (especially at the menstrual period) lasting about a week. She continued in this way, living at home, until twenty-two years of age.

At this time, during a period of depression she became excited. Delusions of persecution were active. She refused all food and nearly starved herself. She was so much frightened and so troublesome as to require constant attention from one of the family. In this condition she was committed to the Boston Lunatic Hospital, in June, 1883.

On admission to the hospital she was very weak, frightened and incoherent. Pulse 120. She required feeding with the tube for the next two weeks. She then began, gradually, to eat. Both feet swelled, left more than the right, during the first month in the hospital. She was noisy at times.

In August, having gained physically, she was allowed to dress. She was still very wretched and incoherent. She now gradually improved so that by October, ceasing to wet herself and being more rational, she was removed to a better ward. She would stand about, however, and for six months after admission, very strongly objected to lying in bed or sitting.

In December she stood less and became much brighter and asked for a library book.

For months she had been in the habit of standing near another patient of the same age who was dull, depressed, and stood most of the time; moreover, she still seemed much affected by this patient and would imitate her in many things.

For two weeks she continued bright and read novels, yet she seemed timid.

December 28th. She relapsed into the depressed condition, crying for fear something had happened at home. She again refused to stay in bed, and was in the same condition as before. With the exception of a slight remission of symptoms, lasting three or four days, the depression continued three and one-half months.

In April, she again became rational and cheerful. This had been preceded by a condition of increased activity, the patient being so troublesome and untidy as to be sent to the excited ward.

From this time the conditions of depression and exhilaration alternated for a year with fair regularity. Twelve cycles occurred in two hundred and sixty-four days, an average of twenty-two days. They were never under seventeen, nor over thirty days. The depression lasted twice as long as the exhilaration.

When depressed, she was extremely dull, and would

cry if spoken to, however kindly. She would stand in the middle of the floor for many hours, turning about as though on a pivot, wringing her hands. She seemed very wretched; she declined food and medicine. She was very obstinate. Her hands and face were blue and cold.

The change to exhilaration took place within twelve hours. The first sign of a change was the inclination of the patient to laugh. She would laugh in a silly way without cause. She would soon begin to steal. When excited, she always stole stockings and underwear of other patients, especially during the first part of the excitement. She showed considerable activity, and reached the height of her exhilaration on the second day. When accused of stealing, she would invariably lie about it. The exhilaration subsided considerably, and the patient became less troublesome before the period of depression. The nearest approach to sanity was at this time, yet there was no distinct period of sanity.

The last two periods of depression were somewhat different from the others — so much so, that the attendant remarked upon it. The patient was hysterical, laughing and crying in rapid succession. For hours she would make a low, hissing noise. At this time she saw her brother, but would give him no evidence of recognition.

A week later, when no longer depressed, she talked freely about the way in which she had treated her brother, and how badly he felt. She expressed no sorrow for her conduct, but related it as a fact of scientific interest.

Just before one of the later periods of depression, she remarked that she supposed she must be sick again, but she dreaded it. This showed more reasoning power than usual for her when exhilarated.

February 1, 1885. The depression gave way to the usual exhilarated condition. The exhilaration continued for four weeks, when, much to every one's surprise, the customary depression did not appear. The patient became more quiet, cheerful, and rational. She was more industrious, gained flesh, and showed an appreciation of affairs that had been quite foreign to her. She was ambitious to go home. She wrote thoughtful and sensible letters. In a little less than four months from the recovery from her last attack of depression, she was allowed to go home.

It is worth mentioning that menstruation ceased at the time of her coming to the hospital. It was renewed (and was afterwards regular) in June, 1884, two months after the alternation was established, and eight months before recovery.

She was seen October 15th, 1886, by the writer, and she seemed rational, talked sensibly on many subjects, and reported that she had been free from any depression or undue excitement. Her aunt corroborated her statement. This was twenty-one months after the last attack of depression. She is childish in some respects, laughs easily, and does not appear as other young women of her age who have been in society all their lives. This is very natural when it is considered that for ten years she was shut out from the world, and was unable to learn the thousands of little things a girl learns from fourteen to twenty-four.

CASE II. Mr. K., born in Maine in 1810, of Irish parents; sailor. No insanity known in the family. In 1845, at the age of thirty-five, he was admitted to the McLean Asylum. Through the courtesy of the officers

of that hospital, I am able to give the following concise history of the early symptoms in the case:

July 1st, 1845. He complained of a severe headache, with a rushing of blood to the head, for which he was freely bled and leeches, but without any permanent relief.

On the night of the 4th of July, he went with his wife to see the fireworks on Boston Common, where he appeared odd, and talked a great deal. He flourished his cane, and made singular remarks about the fireworks.

That night he awoke screaming loudly, and was much disturbed and confused. Had an impression that some one was after him. He was all right the next morning, however. For the next two weeks there was scarcely a day that he did not show, at some time, a certain amount of excitement.

On the 15th he became highly excited, and was removed to the jail. The following day he was admitted to the McLean Asylum, walking there quietly with his wife. He was aware something was wrong with his head, and he was willing to stay.

The clinical record is as follows: 17th. Quiet until afternoon. Grew excited and noisy. Moved to the middle story. Did not sleep. 18th. Restless all night and some noisy. After noon became very excited and noisy, pounded the door and screamed and was removed from the ward. Continued very noisy and violent and was removed still further. Thought his wife had been there and he was to be robbed and injured.

August 7th. Had frequent turns of being excited and became so noisy as to be sent to the lower ward. His more rational intervals are less distinctly marked and he does not seem to have so clear an idea of himself as when he first came. 18th. Discharged well.

From this account it does not appear how this attack could be distinguished from an ordinary attack of acute mania.

A detailed account of the succeeding history of the case would fill a good-sized volume and only a general account of the case can be given. A chart has been prepared to show the time and relative length of the different periods of excitement, depression and sanity. The chart cannot be given here. On it was a record of thirty-three attacks of mania and eighteen attacks of depression; sixteen of the attacks of mania began in the three months, November, December and January; eight in December. Four attacks of depression began in December. Previous to 1865 there is little clinical history obtainable, and I have assumed that certain times spent in hospitals were periods of excitement. From 1845 to 1869 he was sent to a hospital eighteen times. Two commitments, however, are for one attack. He may have had slight periods of excitement for which he was not sent to a hospital, but it is now impossible to ascertain if such was the fact.

For many years there have been noticed two distinct degrees of excitement. For a short time there would be great excitement. The patient would destroy his clothing and bedding, daub himself and the room with filth, and be extremely noisy. This condition usually ushered in the excited stage. Occasionally, however, there would be two or three outbursts of excitement during the period of exhilaration.

The excitement usually begins suddenly. For the past fifteen years the most sudden changes in the patient's condition would be those from depression to

great excitement. Sometimes this change would take place within twenty-four hours. Usually not more than three days were needed to reach the highly excited condition.

For a great many years it has been an invariable custom with this patient just before the onset of an excited period to shake hands with the right index finger stiff.

When becoming excited he also has a habit of mixing all his food in one mess. Bread, coffee, soup, meat and sauce are stirred together. Clouston mentions a case who had the same habit.

When excited he is full of bluster and braggadocio, is very noisy and profane. He demands certain privileges as tobacco, his discharge, etc., in a loud tone, and makes severe threats with many oaths if he is not given all he asks. He is usually good-natured, but is at times cross and sullen. Does not treat his wife as well as he does other people. He does not seem to have been as cross in later years. Although he will flourish his fists, square off, and threaten to take possession of the ward he is seldom violent.

This patient when excited is always very busy with his clothing. He sews it and tears it, always dressing fantastically, and making a very amusing spectacle of himself. There is nothing more characteristic of his excitement than this constant tearing and sewing.

In the earlier years of hospital life he would always succeed by fair means or foul in getting hold of a needle and thread and proceed to patch his clothes with a piece of carpet or bed-ticking. He would sew the sleeves of his coat or he would quilt the entire suit. He was also fond of braiding straw, making himself a hat. During the height of his excitement he would tear all his clothing to strips and decorate himself with a few narrow bandages. The record mentions him at one time as being very happy and stark naked except for a string tied about his penis.

In later years has not been so thoroughly destructive, but he tears parts of his clothing to strings and then makes knots in the strings.

He was given a strong suit a few years ago and it seemed to annoy him because he could not tear it. One morning he was found to be quite contented, and on examination it was found he had secured a bit of glass and punched a hole in his coat and tied two strings through the hole.

His conduct at these times is thoroughly lawless, he is forgetful of all the proprieties. He will even swear at others for indulging in profanity. As the excitement subsides he is seen to have a good memory and be very witty. He cannot be made to stick to one subject long enough to test his general knowledge.

He is full of pranks, and occasionally gets into trouble. One of the most narrow escapes was forty years ago, at the beginning of an excited spell, when he flourished two horse pistols about considerably, much to the alarm of his friends. He proceeded with them to the Navy Yard, where he was employed, and fired into a Chinese junk then visiting this port, saying that curiosity had no business here. At this same time he threw cold water over his wife and daughter, to make them smarter.

The depressed periods come on slowly. At first they were not over a month in duration. There is no record of when they first came on, but it is mentioned, in 1870, that they had been formerly an invariable sign of recovery.

The length of the depressed period has steadily in-

creased, until it is now from ten to sixteen weeks. There is considerable inertia, loss of appetite, and general physical depression. The face and hands are blue and cold. At these times the patient always complains of "rheumatism," saying his bones ache. Often the recovery from this period is gradual, but the succeeding condition is invariably one of great excitement.

Since 1869, the average length of the depression has been seven weeks, that of the excitement six and one-half months, making the average for the whole cycle a little over eight months. During the first twenty years of the disease, there was a distinct period of sanity following the depression. For the last twenty years there has been no sane interval, not even a vestige of it after the depression.

CASE III. Mr. B., American, born in 1828, merchant; married; no heredity. In 1871, at the age of forty-three, he suddenly became excited. The attack came on in the night, and was preceded by severe headache frontal and occipital. Was afraid he was going to die; was excited and extravagant, buying a horse and buggy while away from home. His excitement lasted a month, which time he spent in New York. Five years later he had another slight attack. In the meantime he had lost all his property in the Boston fire, and was not disturbed mentally by his losses.

In the spring of 1882, six years later, he was overworked. As in the first attack, he was awakened at midnight by severe pain in the head. This time he went South. He bought three guns for himself and chance acquaintances, intending to make a hunting expedition, but he suddenly changed his plan, and wanted to help all churches, bought fireworks, and "treated" liberally, spending money very freely: He returned home prostrated. This attack lasted about a month. The fourth attack of excitement was preceded by business trouble, and came on in August, 1883. The patient went to New York, where he consulted a specialist in nervous diseases. The following night he was disturbed, and called a doctor in the night. As usual, he began to make extravagant negotiations. This time he planned a trip to Fayal. Was treated for four weeks in the Boston Lunatic Hospital; was extremely excited, destructive, and violent.

Since the fourth attack he has had a period of mild depression each winter. It is not stated whether he was subject to depressed periods before this. In one of these depressed periods he joined the church. In the summer of 1884 he was exhilarated again, but did not require hospital treatment. The following winter he was somewhat depressed, with no known cause.

In July, 1885, he had the sixth attack of mania. For a few days only was he violent or destructive, and even then he manifested a strong desire to control himself. This attack lasted a month. Running over with good nature, and extremely restless, talking constantly, and writing numerous letters, he made it very lively for all about him. He made many witty remarks, and told a great many stories. His extreme restlessness and activity, with a tendency to extravagance, were the characteristic symptoms of this attack of mania. There was little, if any, of the moral laxness characteristic of the exhilaration of *folie circulaire*. The extreme excitement did not appear until he had been in the hospital a week. For two days he tore his clothing, struck other patients, and tried to escape.

CASE IV. Mrs. R. F. B., American, born in 1837.

No insanity in family. Mother had facial paralysis at time of patient's birth; no intemperance in family. No known cause. At nineteen years of age had an attack of "hysteria," and was treated in a water-cure establishment. Was excited, talkative, violent, and required restraint. Three years later she had the next attack of excitement. In the meantime she had married. For the first six or seven attacks she was kept at home. After that she was sent to hospitals.

In thirty years she had twelve attacks of excitement, lasting four to five weeks, followed by a period of mild depression, lasting about the same time. This was succeeded by a period of sanity lasting from eighteen months to three years.

The excitement comes on suddenly. She cries out in the night, and complains of a distressed feeling and pain in the head. When excited, she mixes up her food, ties knots in her clothing, dresses fantastically, and is very busy cleaning and arranging her things.

When depressed, is dull and inactive, regrets her extravagance when excited, and distrusts her ability to get along without hospital restraint. Once a temporary attack of excitement and depression was caused by the annoyance of moving. The whole attack was shorter and milder than usual.

During the excitement, which the writer witnessed, the patient was very talkative, but coherent, and indulged in profanity. She would talk for hours on family affairs, and describe details of unimportant matters with painful accuracy. For many days she did not get dressed until afternoon, saying she was too busy to dress. She would busy herself cleaning the room, washing the furniture, shaking and turning the mattresses. She was continually slopping water about and making great confusion. She would mix her food, and at times would spend three hours eating a small meal.

She amused some and shocked others by making a catafalque of a black shawl and a bed, in honor of General Hancock. She would play the piano for old patients to dance.

During the excitement she was very familiar, and made many personal remarks. She would appropriate anything she liked, and then give it to any one she chose. She filled a bureau-drawer with purloined articles, and then denied ever having them. Although rough, she was seldom violent. One evening she screamed for hours to spite some one who had annoyed her. Her conversation was inclined to be broad unless she were checked.

She menstruated during the excitement, and at this time she said and did some coarse things. The excitement continued for five weeks. After this, for three weeks she was on alternate days sleepy and exhilarated. This condition gradually merged into one of mild depression. This did not clear away for eight weeks more. During the depression she was troubled with wakefulness. At no time was she so dull as to take to her bed. She read her Bible considerably, but her depression was not sufficient to be called such by one not knowing her natural condition.

The hospital records contain the history of a male patient, a case of *folie circulaire*, whose periods of excitement were from two to four months, and the depressed periods fully as long. He, for a period of several weeks, would have alternate exhilaration and depression on the same day.

CASE V. Mrs. J. H., born in Boston in 1827, of

Irish parents. Mother died of paralysis; father was intemperate, and subject to fits of melancholy. She was married at the age of fourteen. The early history of the case is very imperfect, nor is there any record of the number or duration of the cycles.

At the age of twenty-eight she had probably the first attack, and was sent to the McLean Asylum. Subsequently, she went to the Taunton, Boston, and Danvers hospitals. For thirty years, at least, she was subject to attacks of depression and exhilaration in alternation. Her friends were in the habit of calling her "well" when exhilarated, although she was far from well at any time. This was because she was more unfitted for the ordinary duties of life when depressed, and it was during her depression that she went to hospitals for care. But at no time was she able to manage her own house. When exhilarated, she had less judgment, and was more troublesome than when depressed, but fears of suicide led to her commitment to a hospital at such times.

When excited, she would always do very foolish things, or make very foolish purchases "to do good." At the time of the Rebellion she appeared in the streets of Boston one day dressed in red, white, and blue, thinking that by this patriotic demonstration she could accomplish some great good. At another time she bought a whole barrel of mouldy crackers, paying the price of good crackers. In extenuation of her folly, she explained that they might be given to somebody's hens. When further pushed, she said she had a good barrel, at any rate.

At another time, seeing a lot of buckets at a low price, she bought the lot, having no use for them.

Her periods of depression were usually preceded, it is said, by some slight depressing incident, and did not appear to come on at a given time, regardless of circumstances. When depressed, she thought herself very poor, and consented to much poorer fare than she would when exhilarated, saying she ought not to eat what others had earned.

In one period of depression she refused to drink, thinking her daughter was trying to poison her. She would worry much about religious affairs, and read much religious literature, and would complain that the more she read, the more condemned she felt. Complained of impulses to injure herself and others, yet at no time did she even attempt suicide, or show any violence. She was inactive and hypochondriacal. Would be watchful and suspicious, thinking people were trying to steal from her. Sleep was poor at these times. These attacks lasted several months.

There were no distinct same periods, as nearly as the writer could learn, but the excitement or exhilaration was not uniform during the time when not depressed.

There was one unusual incident in the course of this patient's career: In 1885, during a period of marked exhilaration, there arose real causes for anxiety. At the same time, the patient suffered from a felon. These exciting causes apparently brought about a condition of delirious, maniacal excitement, for which she was sent to the Danvers Hospital. She soon became rational, but had no memory of the commitment, nor of her sickness at that time.

Later the same year, when depressed, she was committed to the Boston Lunatic Hospital. She was inactive and hypochondriacal, constantly complaining of a weak suicidal impulse. She was found to have dia-

betes mellitus. Two months after admission she died from pulmonary thrombosis, due probably to her inactivity.

CASE VI. Mrs. D., born in 1829. American, school-teacher. One paternal uncle insane. One paternal aunt depressed for a time. One maternal aunt had two or three attacks of depression. One maternal cousin was insane.

For fifteen years she has been subject to attacks of depression, lasting several months, once a year. After she had had several of these she was noticed, when not depressed, to be exhilarated and active and wanted to travel constantly. This exhilaration was not so marked as to cause others to suspect insanity. The periods have grown longer the past seven or eight years, so that for the whole year she has been either depressed or exhilarated, passing gradually from one to the other.

At the age of fifty-seven she went to Florida on business in the spring. She became depressed there, and for six months she left the house only twice. When depressed she was always in the habit of keeping in the house.

She returned to New England in October, still depressed. In a week she became acutely maniacal with delusions of persecution. She requested protection from the police, mayor and detectives. She was sent to the hospital and proved to be most violently excited. Refused food for many months, had hallucinations of hearing, assaulted attendants, destroyed clothing and was extremely noisy. This unusual condition can not be called the excitement of *folie circulaire*, and as the case is under observation still, it is hardly time to report the case.

CASE VII. Mrs E. H., American, born in 1820. Near the age of fifty she had an attack of melancholia lasting four months. At the age of sixty she had a second attack lasting eighteen months. Was very depressed and thought she was going to starve.

Three years later she had a third attack of depression with same delusions as before. Was excited and required restraint for a week. Suffered much from *arthritis deformans* and dyspepsia. This condition lasted for five months when she became cheerful and rational. In February following, four months after becoming cheerful, she was at once very talkative, exhilarated and restless, made a nuisance of herself in the ward, talking constantly. This condition passed away in two months.

She soon went home and continued well for six months. She then returned to the hospital voluntarily, depressed and suffering from dyspepsia. She was soon profoundly depressed, thought she had no oesophagus and refused to eat.

She recovered in the spring again, and remaining rational for three months, she went home but was obliged to return within a week she was so confused and exhilarated.

She then passed into a condition entirely new for her. Was destructive, and noisy at times. Ate very well and digestion gave her no trouble. Was full of delusions and acted very queerly under their influence. Would not answer a question but go through a pantomime. Took one of the doctors for her son. Would tear her hair, run out in the hall in night-dress and was extremely troublesome.

October 21st, 1886. This condition continues unchanged. It is now four months.

## REPORT ON OBSTETRICS.

BY CHARLES M. GREEN, M.D.

## CHLORAL HYDRATE IN OBSTINATE VOMITING OF PREGNANCY.

LEON reports<sup>1</sup> the case of a sexti-gravida, strong and healthy, but the victim of constant and severe vomiting in all her pregnancies, once or twice associated with ptalism. In the sixth pregnancy Leon tried all the usual remedies without success, including ice and iced drinks, iced compresses to the epigastrium, brandy in large and small doses, and dilatation of the os. (The uterus was in normal position and the os not eroded.) The patient ultimately became almost unconscious and could not recognize her friends. Leon then ordered chloral hydrate, in forty-grain doses, to be administered *per rectum* every six hours. Immediate relief followed, and at the end of the first day the patient could sleep quietly. This treatment was kept up for some days, when the patient began to beg for food. She was then allowed to eat what she chose, and there was no return of the nausea and vomiting.

[Simmons, of Yokohama, reported<sup>2</sup> four cases of excessive vomiting in pregnancy, which were immediately relieved by chloral, thirty grains *per rectum* morning and evening. Richardson has also reported<sup>3</sup> three successful cases. Chloral is therefore well worth trial in this occasionally distressing and even fatal complication of pregnancy.—REP.]

## THE UTERINE BRUIT.

ANDREIEW<sup>4</sup> has examined one hundred and fifty-eight cases of women in labor, and in the lying-in period with reference to the uterine bruit. The results of his observations are as follows:

1. While before the birth of the child the uterine bruit shows a varying condition, after labor it is always of the same character, weak and distinctly intermittent.

2. There is no case in which, with careful and repeated auscultation, one can miss hearing the bruit.

3. The most frequent seat of the bruit is about the same before as after labor, and for the most part is found in the left or right side of the uterus, or on both sides at the same time; but it is more frequently heard on the left side than on the right. [Doubtless on account of the customary right lateral torsion of the uterus, which brings the vessels on the left side of that organ into closer proximity to the anterior abdominal wall.—REP.]

4. The strength of the bruit after labor is influenced by the involution of the uterus: the more rapid and complete the involution, the weaker the bruit; but this relationship is not without its limits.

5. The position of the puerperal uterus is without influence on the strength and seat of the bruit: the same is true of the seat of the placenta.

6. The bruit persists after labor for various lengths of time: in healthy puerperae on the average fifty-seven hours; in the sick, ninety-nine hours.

7. The uterine bruit is not a sure sign of pregnancy, as it also occurs in other conditions of the uterus.

8. The bruit is more frequently observed in interstitial than in sub-peritoneal myomata: its presence proves a marked vascular development.

## THE CERVIX AND THE LOWER UTERINE SEGMENT.

Perhaps the most important contributions to obstetric literature during the past year have been the works of Chiari, Waldeyer and Schröder, concerning the relations of the gravid and parturient uterus represented by frozen sections and described in appropriate text.

WALDEYER's work<sup>5</sup> consists in a description of the appearances of frozen sections of a gravida at full term, who was killed by a locomotive. As death had taken place before labor pains had begun, there was naturally no visible "contraction-ring"; but the uterine muscle just above the internal os in front and behind was a little thinner than elsewhere. The normal length of the cervix was preserved and the internal os closed,—another proof that there is no real shortening of the cervix during pregnancy. The internal os lay below the plane of the pelvic brim: the uterus was soft and did not preserve a regular, symmetrical ovoid shape, but adapted itself to its surroundings.

SCHRÖDER,<sup>6</sup> with the coöperation of Stratz, describes a frozen mesial section of a woman dead in the first stage of labor. The anterior wall of the cervix measured 3.7 cm.; the posterior wall was elongated to 5.5 cm.: the os internum was dilated to a diameter of 4.8 cm., and was sharply marked off from the uterus. Above the os internum, both in front and behind, the uterine wall was especially thin, and the contraction-ring was 5.5 cm., above the os internum in front and 3.5 cm. behind. The first effect of labor in this patient, therefore, was to canalize the lower uterine segment and cervical canal. These observations are in accord with Chiari's. According to Schröder and Stratz the uterus at the end of pregnancy is made up of three different parts,—the part capable of retraction, the lower uterine segment, and the cervix. The lower segment undergoes no active contraction during labor. The boundary between the contracting and retracting part above and the progressively thinning and non-contracting segment below is the "contraction-ring"; while the os internum separates the lower segment from the cervix. With the beginning of uterine action, contraction and retraction go on together in what might be called the working portion of the uterus, the contraction-ring rises, the lower segment becomes distended and thinned, and the fetus is driven down into the expanded lower segment and cervix.

The second part of Schröder's work<sup>7</sup> was prepared by HOFMEIER, and is devoted to the consideration of the cervix and lower uterine segment in their anatomical and physiological selections. After a critical examination of the views of other writers on this point, the author describes a number of instructive frozen sections.

In the first place it is clearly established that the cervix to the last moment of pregnancy is preserved as a canal, and is usually filled with cervical mucus. It is possible, however, that during pregnancy the

<sup>1</sup> Anal. de Obstet. y. Pediatría, April, 1886; London Medical Record, December 15, 1886.

<sup>2</sup> London Medical Record, June 1, 1874.

<sup>3</sup> Trans. American Gynecological Society, Vol. 1, p. 247.

<sup>4</sup> Archives de Tocologie, April 15, 1886; Centralblatt für Gynäkologie, 1886, No. 46.

<sup>5</sup> Medianschnitt einer Hochschwangeren bei Steislage des Fötus, Bonn, 1886. Centralblatt für Gynäkologie, 1886, No. 28.

<sup>6</sup> Der Schwangere und kreisende Uterus, Bonn, 1886. Am. Jour. of Med. Sciences, January, 1887.

<sup>7</sup> Centralblatt für Gynäkologie, 1886, No. 30.

cervix may undergo more or less funnel-shaped dilatation, the result of preliminary and oftentimes painless contractions. Regarding the lower uterine segment, Hofmeier is convinced by anatomical facts, macroscopical as well as microscopical, that this portion is not derived from the cervix, as many authors claim, but from the body of the uterus. And he agrees with Schatz that during labor the uterus is divided into a markedly distended portion (thinned even to the point of rupture in certain cases) and an actively contracting part, that is, uterine body. The union of these two portions is strongly marked under the influence of good pains by the contraction-ring, which can be demonstrated by palpation in favorable subjects.

#### PUERPERAL INFECTION BY CONTACT.

As long ago as 1865 Lefort emphasized the significance of contact-infection in contrast with air-infection in a number of infectious diseases, but especially in diseased conditions of wounds and in puerperal fever. In a brief paper<sup>8</sup> he now cites as evidence on this subject an account of an epidemic of puerperal fever which numbered among its victims the daughter of a colleague. For the sake of the greatest possible protection against infection, the patient was delivered at her country-seat; but she died nevertheless of puerperal peritonitis. After careful search for the source of infection, it appeared that the nurse in attendance had recently lost four women in a similar way, while in the practice of both the physicians living in that vicinity and of all the other midwives in the place no case of puerperal fever had occurred. The original infection of the nurse had proceeded from a case of fistulous abscess of the thigh, whence in the opinion of Lefort the pathogenic organisms had been carried.

As there was no law in France whereby the midwife could be prevented against her will from exercising her calling, she infected two more women with fatal result, in spite of warnings by the Prefect. Finally, for a material indemnification for the loss of her time, she consented to spend two months in travel. In England, adds Lefort, she would have spent two years in prison.

[Authenticated cases like the above are valuable in convincing obstetricians of the importance of a rigid system of antisepticism in all cases, and of special disinfection both of doctor and nurse after attendance on septic patients. It should be the duty of the physician to see to it that the nurse he puts in charge of a case has properly disinfected her clothing and her person, and that she never touches the patient's genitals before, during or after labor without having previously made proper use of an antiseptic solution. The statistics of lying-in hospitals show that where antisepticism prevails, puerperal fever is unknown. — REF.]

#### HOW TO DISINFECT THE HANDS.

Since the almost universal acceptance by obstetricians of the views of Semmelweis and Koch concerning the aetiology of puerperal fever, — that this affection always originates from the entrance of septic material through lesions in the genital canal, and since it has at last come to be admitted that the fingers of the nurse and physician are the chief means of introducing micro-organisms to the numerous loci of absorption, it has become a matter of great importance that

it shall be accurately known how the infectious germs inevitably lurking in the innumerable creases and fissures of the hands, in the ungual folds, and under the finger-nails can be effectively sterilized.

At a meeting of the Hamburg Medical Association, Kümmel<sup>9</sup> has given the results of his experiments in this matter, first testing with his hands in what might be called their normal condition, and then with the hands infected by contact with known septic material. His method was to dip his hands, still wet with the disinfectant experimented with, into nutritive gelatine, the subsequent examination of which would disclose the germ-killing efficiency of the various disinfectants used.

To cleanse hands in their normal condition Kümmel found it was sufficient to wash them with hot water, soap, and nail-brush for three minutes, and then for one minute with 0.6 per cent. thymol solution, or 0.1 per cent. sublimate solution, or 3 per cent. solution of carbolic acid. But to thoroughly cleanse infected hands there must be a good scrubbing with hot water, (preferably) potash soap, and brush for five minutes, followed by brushing for two minutes with 5 per cent. carbolic solution or chlorine water. Of course the exposed part of the arm should be included in the process.

[The importance of Kümmel's paper lies largely in his explicit direction about soap and water cleansing before the use of the selected disinfectant. Probably no antiseptic, however potent, is efficient when the hands are simply dabbled in it. A nail-brush should therefore be included in the obstetric bag; and the common soft soap to be found in most kitchens, or the yellow laundry soap, should be faithfully used with brush and hot water, as a necessary preliminary to efficient disinfection. — REF.]

#### THE VALUE OF ANTIPIRYNE IN PUERPERAL FEVER.

In a discussion on the treatment of puerperal fever at the first meeting of the German Gynecological Society in Munich last June, it appeared that by many prominent obstetricians the use of antipyrine in that disease had been abandoned. Mundé, who was present at the meeting, was led on his return to New York to give<sup>10</sup> his experience with the drug, which has seemed to him of great value in suitable cases. While admitting that the effect of antipyrine is but temporary, Mundé believes that, in the intervals of comfort and comparative apyrexia which follow the use of the remedy, the patient is enabled to recuperate by sleep and to accumulate vital force which has been consumed by the fever: time is thus gained in which the patient may throw off the poison, and in which the other remedies so important in this disease, — the cold coil, stimulants, and nutrients, and above all appropriate local treatment, can be used. Mundé has advised using the drug during the past two years in nineteen cases of puerperal septicæmia and in nine cases of puerperal peritonitis seen in consultation, and of these twenty-eight cases only three proved fatal.

Mundé disbelieves in the use of large doses; twenty to thirty grains repeated every hour or two until sixty or ninety grains have been given, he considers exceedingly hazardous, on account of the likelihood of serious collapse. He begins with a dose of twenty grains, if the patient is strong, and follows with five or ten grain

<sup>8</sup> Gazette des Hôpitaux, 1886, No. 1; Centralblatt für Gynäkologie, 1886, No. 46.

<sup>9</sup> Deutsche Med. Wochenschrift, 1886, No. 32; London Medical Record, November 15, 1886.

<sup>10</sup> New York Medical Journal, October 9, 1886.

doses every half-hour or hour, until twenty grains more shall have been taken. If the patient is weak, he begins with but ten grains, and then gives five grains every half-hour, until twenty grains more shall have been taken, making thirty grains in all. At the same time the pulse is carefully watched and any sign of flagging is a signal to discontinue the drug and give stimulants. When the temperature rises above 102°, the drug is repeated in the same manner, in the above-mentioned, or even smaller, doses; but Mundé has seldom found it necessary to order the thirty or forty grains in divided doses to be given more than twice in twenty-four hours, generally only once and that usually towards evening. As soon as the temperature falls below 101°, the drug is discontinued. The author believes the remedy is best given in solution with syrup and water, five grains to the tablespoonful, or in gelatine capsules, or again in suppositories or by enemata: it may also be used hypodermically, as the drug is readily soluble, one grain to a minim of water. From his somewhat extended use of the drug, Mundé can report most satisfactory results.

[Perhaps one of the most forcible arguments against the use of antipyrine is the fact that with the fall of temperature many practitioners would be led by a false sense of security to omit the local and systemic measures so essential to the successful treatment of puerperal septicæmia. This is, of course, no argument against the intelligent use of the remedy recommended by Mundé, who employs the drug only as an adjuvant to appropriate local and general measures. It should not be forgotten, however, that antipyrine is a drug powerful for good and evil; and that except to the practised observer it may temporarily so mask the symptoms of septicæmia that the medical attendant may relax his attention to local conditions, in the belief that a fall of temperature, thus artificially produced, indicates abatement of the disease itself.—*Rev.*]

### Clinical Memorandum.

#### A CASE OF CEREBRAL DISEASE, COMPLICATED WITH PREGNANCY.

By R. L. HODGSON, M.D., OF ARLINGTON.

Mrs. D., aged thirty-three, mother of four children, one of them idiotic of very low type. During her pregnancies she had no excessive vomiting. She had good health uniformly, except an uncomfortable feeling in back of head at times, for which she had consulted a physician when in New York in May, 1885. He did not attach much importance to the feeling, and so told her. Her father died in the McLean Asylum of some affection of the brain.

I was called to prescribe for her on October 29th, 1885, for troublesome vomiting. She had menstruated last about the middle of September. The vomiting began about a week before my first visit, more than a month after the last menstruation. She supposed herself pregnant, and I, thinking her case one of the common vomiting of pregnancy, made a simple prescription, and did not see her again for some days. On my second visit, I learned that the day before the vomiting began, while she was in a carriage, the driver whipped the horse so that he started with a jerk, and she felt something give way in her back. On vaginal

examination, the uterus was found prolapsed and retroverted. It was readily restored to its normal position and easily kept there by a pessary. She was in bed, and not disposed to get up. There was no relief to the vomiting after the replacing of the uterus. Vomiting persisted and increased, so that within a week nothing was retained by the stomach, and recourse was had to nutritive enemata.

At this time, and during the whole course of the disease, there was marked hyperæsthesia of the skin, the slightest touch causing her to shrink, and sometimes to cry out. She was very averse to making any exertion. When asked to place herself in position for examination, she would say, "Wait a little"; when asked again, she said, "Don't be impatient with me." Only after repeated urging would she place herself in the required position. Though these symptoms, with the vomiting, raised the question of disease of the brain, yet as there seemed no hysterical element in them—for instance, deep pressure being borne better than light—all the symptoms were interpreted as the results of the pregnant condition. The next three weeks showed little change.

Enemata of soups, broths, emulsion of sweetbreads and milk were the sole nourishment, except Murdoch's Food, which the nurse added to each enema. All the enemata did well except milk, but whenever milk was given she complained of a fulness and pressure in the head, which was not relieved till after a dejection. The last week in November she began to retain some food. The enemata were given at longer intervals, and she was nourished largely by food by the mouth. The uterus was at this time increasing in size, and kept in place without artificial support. She gained strength and began to take some beefsteak and to sit up a short time. December 7th, she sat up, received a caller, and wrote a card to her mother, saying she was getting well. That night the sick child, as the idiotic one was called, made a great noise in another room, and excited the mother. The next day the vomiting was greater, and there was excitement and an inclination to talk whenever any one was with her. There was from the first a desire to talk more than was her custom, and about private affairs. The next four weeks the vomiting varied in degree, but was so much that she was nourished largely *per rectum*.

She had during that time periods of excitement in which she talked a great deal, but always rationally and coherently, though there was loss of memory and confusion about time. The periods of excitement were usually followed by sleep, which she said refreshed her, and she would say, on awaking, "I feel I am getting better." Up to January 6th, 1886, there had been no delirium, no convulsion, no paralysis, though there had been morbid sensibility, disturbance of volition, and of memory. The pulse had been normal, temperature not observed, though nothing indicated a change from normal. Defæcation and micturition had been regular and natural. On January 13th, after a long period of excitement, in which she talked with difficulty, having apparent aphasia, there was a long sleep. On the morning of 14th, there was a convulsive movement of the left arm, lasting some minutes. Then came on active delirium, with very frequent pulse and hot, dry skin. This state of things lasted through the 14th and 15th, and up to three o'clock on the morning of the 16th, at which time she sunk and died, the delirium being very active to the last.

**Treatment.** The early symptoms in this case would have aroused grave suspicion of disease of the brain had not pregnancy come in as a probable explanation of them. I was sustained by two gentlemen who saw the patient in consultation, in my opinion that, though the brain was suspected, the symptoms were probably reflex. Later developments made it clear that there was some lesion of the brain, and the autopsy, that great aid in diagnosis, made by Dr. Fitz, settled all doubts. The body was found fairly well nourished. The uterus was found *in situ* well developed and containing a well-developed fetus of about four months. No organ showed anything abnormal till the brain was exposed. There the arachnoid was darkened, injected and thickened. In each hemisphere of the brain, close to the longitudinal fissure, were two or three hemispherical depressions large enough to admit the end of a common-sized finger. One of the depressions was filled by a cyst containing a limpid serous fluid. Dr. Fitz gave as the cause of death chronic arachnitis, with atrophy of the brain.

### Reports of Societies.

#### PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

DECEMBER 11, 1886, the President, DR. A. D. SINCLAIR, in the chair.

DR. R. L. HODGDON reported a

#### CASE OF CEREBRAL DISEASE COMPLICATED WITH PREGNANCY.<sup>1</sup>

DR. C. E. STEDMAN alluded to the case of a young woman, who in labor at term was seized with convulsions of peculiar character and died soon after delivery: there was paralysis of the right arm. The cause of death was found to be cerebral hemorrhage.

DR. SINCLAIR had seen in consultation a case in the ninth month of pregnancy complicated with some disease of the brain. The patient was comatose and moribund: the child was alive, however, and he advised immediate artificial delivery; but neither the attending physician nor the husband would assent to this, and both lives were lost. The nature of the disease was not apparent and autopsy was refused.

DR. ELLIOT reported ~

#### A CASE OF CHRONIC SALPINGITIS WITH SUPPURATING TUBO-OVARIAN CYST: OPERATION, RECOVERY.

DR. BLAKE said that before the days of laparotomy the treatment of cases like this was by incision and drainage *per vaginam*, followed by months of suffering before recovery, if indeed recovery occur.

DR. BAKER believed that not infrequently cases of supposed pelvic abscess would prove to be like the one reported, if laparotomy were done to make a clear diagnosis: early laparotomy for diagnostic purposes he believed to be a justifiable and valuable procedure in all doubtful cases. He thought the fact that some medical men see so many cases of salpingitis, while others see comparatively few, was susceptible of an easy explanation: in large public hospitals, like Bellevue, for instance, are to be found many gonorrheal

patients, and the staff of such a hospital would naturally see a larger proportional number of cases of diseased tubes, which are chiefly of gonorrheal origin, than the staff of a hospital like the New York Woman's Hospital, which has a different clientele and not so much gonorrhea.

DR. DRAPER had observed in the *post-mortem* examination of acute cases of criminal abortion, in which inflammatory changes had proceeded from the endometrium to the tubes and thence to the peritonæum, that the dilatation of the tubes increased uniformly from the uterine opening outward, so that the tubes presented a funnel-shaped appearance. He asked DR. ELLIOT if such was the character of the dilatation in his case.

DR. ELLIOT replied that in the case reported the end of the tube connected with, and opening into, the cyst was about one-eighth of an inch in diameter: the tube itself was sacculated, the pouches being big enough to admit the thumb; between the sac-like dilatations the tube was constricted. The tube-walls were much thinned in the dilated parts.

DR. STRONG said that cases like Dr. Elliot's, in which the diagnosis was made before operation, and in which the result was so excellent, would go far towards stemming the current of abuse against the operation; and they should also win favorable opinions of diagnostic laparotomy in doubtful cases. He had observed one case of salpingitis known to be the result of gonorrhea contracted from the husband. At first the inflammatory process was limited to the vagina and the patient was treated with vaginal injections; but later there ensued pain in the right side, and flowing, and he found the right tube distended to the size of a sausage and excessively painful. The patient recovered and is now well. He had also seen a case which much resembled Dr. Elliot's, the patient having a profuse, mal-odorous discharge, the disease being of four years standing: she has disappeared from his observation and he did not know the final issue of the case.

DR. ABBOT inquired if salpingitis was often the immediate result of acute gonorrhea, and directly traceable to that affection.

DR. ELLIOT said that salpingitis was a late manifestation of gonorrheal infection. Among all cases of gonorrhea, salpingitis occurs infrequently; but, as the number of gonorrheal patients is large, the absolute number of cases of salpingitis is also large. In small communities the disease would be rare: he believed, however, that it was more common than generally supposed, and thought that cases of so-called uterine colic are probably oftentimes affections of the tubes.

#### LIGATURE OF THE FUNIS.

DR. HODGDON spoke of an accident, quite unique in his experience, that had recently occurred to him. In tying the funis with a piece of twine he had completely cut it through, and the blood spurted freely. In answer to a question he said he had frequently cut the funis, without tying it, after pulsation had ceased, and had never known the funis to bleed; but he never dared to leave the house without having applied a ligature.

DR. RICHARDSON reminded the society that several years ago he had reported to them the results obtained by him in fifty consecutive cases in the Boston Lying-

<sup>1</sup> See page 59 of this number of the Journal.

in Hospital, in which the cord was cut without tying. After the cord had ceased pulsating it was cut with dull scissors and the child watched: in no instance was there any hæmorrhage; in fact, hæmorrhage could not be induced by stripping the cord or other manipulations. He asked if any member had been troubled with secondary hæmorrhage from the much-twisted, oedematous funis: this accident had occurred several times in his experience.

DR. DAVENPORT had seen one case in which an almost fatal umbilical hæmorrhage occurred four hours after birth.

DR. FORSTER had lost one infant from this cause. He believed the best ligature for the funis was that used in Dublin,—three strings knotted together at the ends, making a cord with three strands; such a cord is strong and will not cut.

DR. COTTING said there was nothing better than a number of strands of thread knotted together at the ends: thread could be found in the poorest house.

DRS. INGALLS and DOE had found narrow linen braid strong and serviceable.

#### BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

DECEMBER 27, 1886, the President, DR. F. W. DRAPER, in the chair.

DR. O. F. WADSWORTH read a paper on the

#### AMBLIOPIA OF SQUINT.<sup>1</sup>

DR. HAY said that after the very able presentation by Dr. Wadsworth of one of the difficult subjects of ophthalmology, he could hardly hope to interest the Society. He would, however, say that for some years he had been accustomed to act in accordance with the views advocated in the interesting paper to which he had just listened. There are two aspects of the subject which especially present themselves to our attention. The theoretical question: Is the inferiority in vision of the squinting eye, which frequently occurs, a consequence of the squint? would it have been prevented if we could have corrected the squint sufficiently early? Then the practical question: Should the operation be done early, as a rule?

The first question can hardly be determined with certainty, for we cannot measure the vision of an infant. The opinion that the defect is a consequence of the strabismus is based on theories, which, however, are not accepted by all authors. The view is that, in consequence of so-called corresponding retinal points, which are anatomically pre-determined, the deviation of one eye would cause double vision, and that to remedy this, there is an instinctive suppression or ignoring of one of the images—that of the deviating eye; and further, that this suppression reacts injuriously on the function of the corresponding visual apparatus.

But, on the other hand, some authors doubt the existence of such anatomically-determined points; and so, in the infant, at the commencement of life the diplopia would not be a necessary consequence of the deviation, as at first, without corresponding retinal points, there would not be binocular single vision; and without this, no proper diplopia. Later, after corre-

sponding points had been acquired; if strabismus should occur, at first there would be diplopia, but binocular fixation might be unlearned, and new arrangements made adapted for the squint, each eye seeing for itself.

As to the practical question, that of early operation: Even supposing the frequent ignoring, on the part of the mind, of the impressions transmitted to the brain from one retina were followed by some reaction injurious to the function of the corresponding retina, conducting fibres, and visual centre, or of parts of them; yet it would only follow that in cases in other respects suitable, we should operate as soon as convenient, for some cases of strabismus are not best treated by cutting. There may be spasmodic cases of reflex origin, or paralytic cases with disease of the brain; also cases with disease of the squinting eye, such that we should not expect any improvement of vision of the eye to result from the tenotomy. As to the numerous cases with a high degree of ametropia, it seems preferable, on some accounts, to postpone the operation till after the age when the child could wear glasses to advantage, in order that the effect of these might first be tried.

As matter of fact, early operation is not always successful in correcting the deformity or in preventing subsequent inferiority of vision in the squinting eye; and indeed, in general, the effect of ocular tenotomy disappoints the operator. If the strabismus were of high degree, and seemed of a kind likely to be relieved by cutting, he should prefer to operate early; but if slight, and especially if there were doubts about its pathology, the operation might be postponed, although, regarding the vision of the infant as something imperfect and in process of development, it seems desirable to remove as soon as practicable any abnormal conditions which might interfere with this process. In a high degree of strabismus, the movements of the eyes are restricted, and adults sometimes experience a sense of relief after the operation.

DR. CHARLES H. WILLIAMS called attention to the poor vision which was often found in convergent strabismus, even in the better eye, the records at the Infirmary for the past year showing the vision to be normal in only sixteen out of some forty cases.

CASES OF CONVERGENT STRABISMUS, WITH HYPERMETROPIA.

	1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	<0.1
Vision Equals,	5	-	-	2	1	1	1	4	7	12	9
Squinting Eyes,	16	3	1	8	1	2	5	3	2	1	-
Other Eye,											

The number of cases in which hypermetropia was present with convergent strabismus, suggested that a certain amount of the amblyopia might be an acquired form, for as the squint is generally developed in early childhood, when the eyes are first used to any extent for near objects, the child may unconsciously find that, by squinting, he can continue the accommodative effort more easily; and in order to avoid diplopia, he suppresses the recognition of the visual impression from the squinting eye at the visual centre, as when one uses the microscope.

If the strabismus is constant in one eye, we may find, by the time the child is old enough to be tested with any accuracy, that a considerable amblyopia already exists from suppression of the images, which would not afterward be changed, and which, so far as our means of testing go, would appear to be congenital.

<sup>1</sup> See page 49.

Dr. WADSWORTH said, in closing the discussion, that the question of retinal identity seems to be introduced by writers rather to explain loss of double vision that was noted. It does not seem especially pertinent to explain the existence of amblyopia, congenital or acquired. He supposes that double vision may occasionally exist in the young child without being complained of, and occasionally we do hear complaints in such children. Dr. Williams may, without doubt, find in the public charities a large proportion of cases with disordered vision. Such abound in all public clinics; their consideration was thrown out from his paper as only complicating discussion. No doubt, hypermetropia is the more common error of refraction in convergent, as myopia is in divergent strabismus, but this does not seem to have any bearing on the immediate question.

#### BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

PHILIP COOMBS KNAFF, M.D., SECRETARY.

MARCH 18, 1886. Dr. DENNY presiding.

Dr. WALTER CHANNING read a paper,

#### REPORT OF A CASE OF EPILEPSY OF FORTY-FIVE YEARS' DURATION, WITH AUTOPSY.<sup>1</sup>

Dr. FISHER said that the case seemed very unusual, and was of interest as being a traumatic case where an operation did no good. A case was recently reported where trephining cured the convulsions in an old case of epilepsy with dementia, although, of course, the dementia itself was not cured. The case, however, was reported too soon after the operation to say with certainty whether there was a complete cure of the convulsions, for many epileptics improve temporarily on new treatment. He spoke of several cases of insanity with a probable epileptic basis. The first case was a boy of seventeen who had had epilepsy since the age of five. After a series of convulsions he was brought to the Boston Lunatic Hospital in a condition of the most extreme suicidal melancholia. He had few convulsions in the hospital but he had to be watched constantly. He finally became exhausted and died of pulmonary embolism. The gross appearances in the brain were healthy. The second case was a young man who had had two or three attacks of doubtful *petit mal*. After a period of some mental anxiety he was found in his room, in a position of opisthotonus, groaning and biting his finger. After he had had one or two attacks he was taken to the hospital, where he made a perfect recovery. In the attacks he became rigid, and then extremely maniacal. The third case was a lady, with a history of apoplexy in the family. For twenty years she had had attacks of unconsciousness without convulsions. For some years she had been a nervous invalid and now she had very vivid hallucinations of sight and hearing which were unilateral.

Dr. J. B. AYER spoke of a case of recovery under treatment. The patient had had attacks for seven years which were increasing in severity. They began with a cold aura in the epigastrium, and the patient believed that he had stopped some by pressure on the hypochondrium. He took the bromides for three years, and has now been free from any trouble for three years.

Dr. COWLES said that the confirmed epileptics seen in asylums were more curious than interesting. As a rule, the cases hardly repaid study and the autopsies often showed nothing significant. In the case reported the epilepsy was certainly secondary to the trauma, coming on some years after and showing a progressive character. The patient must have had great psychical stability to have withstood all this for so long. It was often hard to decide, in an asylum, whether convulsions were due to hysteria or epilepsy. He quoted a case where anomalous attacks of *petit mal*, with slight unconsciousness, developed after a fright; hystero-epilepsy appeared later. Another case, a girl of twenty, used to have attacks during which her face would flush and she would sit back and close her eyes, although she retained consciousness. After one of these attacks she went into an epileptic state, a condition of mania and hysterical excitement. One of these attacks lasted a fortnight and she had no consciousness of it. In the interval there were no signs of hysteria, but bromide made her worse.

Dr. BOLAND asked if it were proper to call convulsive attacks due to some gross lesion epilepsy. The case reported did not seem to show the mental deterioration of ordinary epilepsy.

Dr. KNAFF said that the question was whether epilepsy should be the name of a distinct disease or merely of a symptom-complex. There is a distinct disease due, as Hughlings-Jackson thinks, to the occasional discharge from certain cells in the cortex whose molecules are in a state of unstable equilibrium. In these cases, after death, we can discover no lesion. This disease must certainly be distinct from similar motor or psychical discharges due to some gross lesion, such as tumor or meningitis, or some poison, such as is present in uræmia. Clinically, however, these cases are often indistinguishable from true epilepsy. Personally he preferred to limit the term "epilepsy" to the first-named condition, and speak of "epileptiform attacks" in cases where a gross lesion could be demonstrated.

Dr. CHANNING said that there were many varieties of epilepsy. Jackson's theory of discharges was a theory of a pathological process based on something, but what was the something? Epilepsy was often traumatic, an effect following a cause, the discharge being simply what took place. Epilepsy, like hemiplegia, was a symptom-complex. Such external manifestations might well be called epilepsy, except where special symptoms warranted us in calling them epileptiform, epileptoid, or hysterical. There seemed no reason for modifying the name. Larvated epilepsy, as seen in criminals, was of great interest. Under other surroundings the case reported might have ended in homicidal or suicidal frenzy. He had seen several such cases with attacks of violence.

Dr. DENNY said that the portions of the cranium and brain exhibited illustrate how epilepsy and insanity sometimes supervene upon a blow without external evidence of a traumatic injury to the skull. The question is suggested, therefore, what is the evidence which, in the absence of any other sufficient cause, shows that these attacks were of traumatic origin. In the first place it is significant of a relation of cause and effect that the most marked pathological changes occupy the line drawn from the point of impact on the frontal bone, and continuing posteriorly along the whole central line of the falx cerebri. Thus the ethmoid is involved in a chronic inflammatory pro-

<sup>1</sup> See this Journal, Vol. cxv, p. 4.

cess, which accounts for the degeneration of the olfactory nerve and its loss of function. Again the falx cerebri attached to the crista galli of the ethmoid is markedly thickened by a chronic pachymeningitis. Furthermore the anterior communicating artery is reduced to an impervious cord by endarteritis, and from this point onwards the cerebral arteries are much diminished in calibre by inflammatory deposits, thus interfering seriously with the circulation and nutrition of the brain, which results in morbid irritability of that organ from anemic conditions, such as are characteristic of epilepsy in general. Again, one of the results of traumatic injury of the brain is an exaggerated chronic mental excitability, which is sometimes the foundation of subsequent epileptic insanity. While progressive dementia with paralysis follows injury to the skull in some cases, yet in another class of cases an injury is followed by a frequently recurring state of excitability with cerebral congestions and epileptic insanity, which is not characterized by the local spasms, such as result from circumscribed injury of the cortex cerebri. The alternating form of symptoms seen in the case described, as shown by the regular recurrence of days of excitement and depression, may be referred to the tendency to periodicity of changes in the cerebral circulation observed in epilepsy, as well as in the related forms of periodicity observed in *folie circulaire*. The combination of the two in this case gives it peculiar interest as illustrating this relation.

October 21, 1886. DR. GORTON in the chair.

DR. E. B. LANE read a paper

SOME CASES OF ALTERNATING INSANITY, WITH ONE CASE OF RECOVERY.<sup>2</sup>

DR. FISHER spoke of three other cases that had been in the Lunatic Hospital. One was a lawyer who at the age of fifty-five became subject to periods of depression and excitement, alternating for ten years. When depressed he was easily managed, when excited he was active and would not attend to business, although he was manageable. In one period of depression he went to the McLean Asylum, but escaped later. After this he became excited, drank, lived loosely, was talkative and quarrelsome, and was sent to the hospital. He was then exhilarated, witty, extravagant, boastful, and grandiose. Suddenly he became moderately depressed, kept his room, had indignation, aged rapidly, and finally died of exhaustion. The second case was a business man, who had alternating periods for thirty years. When excited he was mischievous, violent, and obscene. On two separate occasions he broke his humerus. The third case was an old lady, now ninety-one, who had been insane for thirty years, with long periods. There is a sudden change from excitement to depression, the depression being stuporous. She was generally lively, and slightly exhilarated; she was complimentary, everything pleased her, and she was supremely contented. As a rule cases of *folie circulaire* do not become demented, but the case first mentioned did. The origin of these cases is curious; there may be a recurrent mania, and the mania may cause depression, and then why may we not have periods of recovery. He spoke of a man who had had attacks of depression for three successive years. It was a question whether there was a slight excess of his natural exuberance after these attacks, but there was no mania, and now he had

had no depression for five or six years. In answer to a question by Dr. Channing, the speaker said that the third case he mentioned had never been known to have any period of actual sanity, but when she was not depressed she was sensible and rational, except that she was unusually happy. In answer to Dr. Page he said that it was hard to judge of the temperament of his cases, as they occurred in old people. One of his cases and one of Dr. Lane's were sanguine and volatile, but it was doubtful whether the sanguine temperament was more prone to the trouble.

DR. PAGE said that we often see sane people who at times are moody and unsocial, and at other times are slightly exhilarated. They have ups and downs, as in mental disease, without any known regularity. In answer to Dr. Channing he said that the patients at the Nervine Asylum varied somewhat in their mental condition, but, as a rule, they were rather a hopeless class.

DR. COWLES said that Clouston states that heredity is the rule in typical cases of *folie circulaire*. The majority of the chronic insane at the McLean Asylum have periods of alternation in their insanity, and go on to dementia, but it is a curious fact that typical cases of *folie circulaire* do not become demented. With one exception Dr. Lane's cases presented no regular cycles. A patient at Somerville, who was insane for three years, for some time had a period of exhilaration and a period of depression, with a slight interval of sanity, each period lasting three weeks. The limitation was very precise, a thing which Clouston says is rare.

DR. H. R. STEDMAN said that the absence of dementia in *folie circulaire* impresses every one. The two states, melancholia and mania seem to counterbalance each other, in their effect on the nervous shock, so, as Falret thinks, there is no resultant dementia. In regard to Dr. Lane's first case he considered that, in his experience, alternating states are quite common in the insanity of adolescence. The rationale is bad heredity, causing instability. In the young there is an additional element, that the mind is not stable or fixed, and is prone to change. In the case in question it would be hard to say whether it was *folie circulaire*, as it had not been long enough under observation. It could hardly be *folie circulaire* if the patient stayed well, for patients with that disease do not get well. If the next attack is like this it will establish the diagnosis. It is more likely to go on to dementia with occasional outbursts, than to develop into a true *folie circulaire*. A knowledge of this tendency to alternation in adolescent patients is valuable in prognosis and treatment. Unfortunately we know too little of the early symptoms of *folie circulaire*; hysteria is a common beginning. In answer to Dr. Lane he said that the cases in youth that he had seen, go on for a time, but the attacks are not regular.

DR. KNAFF said that Dauty had recently reported a case of *folie circulaire* where there were four stages, excitement, depression, dementia, and sanity. The dementia was of brief duration, but it was nevertheless distinct.

DR. TURNBULL spoke of a case where just before the maniacal period there were alternating days of exhilaration and depression, and later the mania reached its height. Here malaria was thought to be the cause. In some cases of melancholia we see a period of exhilaration and reaction after the depression

<sup>2</sup> See this Journal, p. 52.

but they are not *folie circulaire*. In sane people he had noticed periods of depression and exhilaration; the former were merely fits of the blues, the latter were less marked.

DR. CHANNING asked which was the primary form in Dr. Lane's cases, depression or exhilaration?

DR. LANE said that they were about evenly divided. One case began with excitement, but a small majority were depressed.

DR. CHANNING said that the pathological explanation of *folie circulaire* had to be changed in accordance with the primary form of the insanity. If the depression be secondary, it may be considered the exhaustion following the excitement, but not if it be primary. In his own experience the depression had been the primary state. In cases of mania a stage of primary depression is common, but it is usually not noticed. He then mentioned the case of a young man of twenty-five, with alternating insanity. At the age of sixteen he became depressed and had to give up study and go to bed for a few days, after which he was slightly exhilarated. He went to school and college for two years, then broke down and had alternating depression and excitement. In the excited stage he went off on sprees, leaving college for that purpose, and acted very strangely. This alternation lasted six months; he was depressed for two weeks, excited one week, and sane two weeks. For a year after that he was better, and then his attacks returned. For ten days he was depressed, stayed in bed, leading an absolutely automatic life, not answering questions, and taking no care of himself. Then he went on an outrageous spree; he had no delusions, but was exhilarated, uncontrollable, and had much sexual excitement. In the excited stage he had no moral sense or sense of honor, but in the sane stage he was fairly trustworthy. It was, however, a case of primary insanity, with congenital mental impairment, manifesting itself at all times.

DR. GOLDSMITH said that the question of alternation was very interesting and obscure. The cause of *folie circulaire* lay as a rule in bad heredity. It was a constitutional neurosis like *primäre Verrücktheit*. In his own experience it was much commoner in people of fair social position and intelligence. There were six cases of it among one hundred and seventy-five patients at the Butler Hospital, more than among eight hundred at Danvers; at Morningside, too, there were more among the hundred private patients than among the seven hundred paupers. Its onset was almost always by melancholia. Depression after mania is common and has no bad significance, but exhilaration after prolonged melancholia means, as a rule, either *folie circulaire* or general paralysis. Dr. Stedman's cases of alternating insanity in the young are of interest: these are also due to bad heredity, but they never turn out to be genuine *folie circulaire*. The successive attacks in *folie circulaire* do not cause dementia, but in the young dementia soon becomes apparent, and finally the alternations grow less and disappear. The alternation is important in diagnosis and prognosis, especially in distinguishing from moral obliquity. In the healthy mind a normal state, and not an exhilarated state, follows a period of depression. He had known of no case of *folie circulaire* that did well, but one, that used to have cycles annually, had had none for three years.

DR. JELLY spoke of a man, with a bad heredity on

both sides and a syphilitic history, who was, when in college, queer, erratic, a practical joker, and no student. Ten years ago he came to Boston, "ten times himself." He went to one or two asylums, and was very excited and troublesome. After eighteen months he became mildly depressed. This depression lasted eighteen months, and then he was well (?) for two years, held a responsible position, and did fairly well. Then he came back to Boston worse than ever, went to the Superintendents' meeting at Newport and made himself conspicuous. For two years he was greatly excited and very troublesome. Then he became intensely depressed, which condition continues. He realizes his condition, takes no care of himself, and is utterly wretched. Every period so far has been worse than the preceding. The excitement now lasts eighteen months, the depression two years, and the interval a year.

DR. COWLES said that Clouston also states that *folie circulaire* is more common among the educated. It is one way that nature limits overbreeding. There are more cases at Somerville than at any State hospital. Alternations of feeling are common in people with a bad heredity who are not insane. If this be so, as neurotic people are unstable, the alternations come more easily from less profound causes, and the patient gets better and then has other attacks. Simple habit has a great influence. Thus, if there is a facile tendency to alternation, and an impressionability to the causes thereof, we may, with the law of reaction, have a basis for a theory of *folie circulaire* in the readiness of the mind to establish a habit of variability.

DR. LANE said that all but two of his cases were of the better class.

DR. TURNBULL said that Spitzka states that in one case the intervals followed the seasons of the year. He knew of a person, not insane, who had periodical attacks of depression in the spring.

### Recent Literature.

*Handbook of Diseases of the Ear.* By URBAN PRITCHARD, M.D., with illustrations. P. Blakiston, Son & Co.: Phila. pp. 207.

This is a concise, well-written handbook, really adapted to its object, as stated in the preface, of furnishing a practical manual for students and practitioners. It is particularly useful for comparison with other works, as it is confined largely to the author's own experience, and in the matter of treatment especially, there is much of interest, as in some degree different from what is advised in the more common text-books.

The criticism to be applied to the book is the one to which all manuals which deal with an extensive subject are open, a sacrifice of very important details in pathology and treatment to conciseness.

*Handbook of the Diseases of the Nervous System.* By JAMES ROSS, M.D., LL.D. 8vo, pp. xx, 723. Philadelphia: Lea Brothers & Co. 1885.

This handbook, the author tells us, is intended for the student and the "busy practitioner," for whom his former treatise was too bulky. Like the former work, the first part of this is devoted to the anatomy, physiology, and general pathology of the nervous system, and to the general symptomatology and treatment of

its diseases. Dr. Ross showed in his former work his wide reading and his skill in compilation, and the present work is a further indication of his powers. This part contains little that is new or original, but it is in the main accurate, and is as useful a summary as can be found in any one book. Numerous illustrations and diagrams render the subject-matter clearer, although we miss the figures of the motor points, which ought to have been inserted for the "man of one book." In his second part the author has employed a different plan from that followed in his Treatise. He has "adopted, as far as possible, a clinical classification, so that the diseases which are most apt to be mistaken for each other will be found in close proximity. . . . His rule has been to leave out the details of morbid anatomy and physiology." The result is not a success. A work in English on the diagnosis of nervous diseases is desirable, but Dr. Ross has not given it to us, neither has he given us a useful text-book.

In the first place, he abandons his classification at the start for a pathological classification, and, when he returns to it, he arranges his diseases in so comprehensive a way as to include catalepsy, Thomsen's disease, epilepsy, and convulsive tic under the same head. Then he reverts to the ordinary pathological classification again, which continues, with occasional breaks, to the end of the book, when he gives a chapter on general diagnosis, into which is thrust a description of cerebral syphilis. In the individual chapters, we find, first the symptoms of all the diseases together, then their pathology, and lastly their treatment, so that the account of the individual disease must be looked for in at least three places. Neurasthenia, however, has a section to itself, but hysteria is scattered all over the book, and tabes dorsalis does not fare much better. Moreover, although a clinical classification has been his aim, the subject of differential diagnosis has been greatly neglected; thus, chronic anterior poliomyelitis stands out as a distinct affection, and scarcely a mention is made of its similarity to multiple neuritis, while the question whether it has a separate existence is untouched. Myelitis, on the other hand, is divided into nine or ten different forms, whose clinical individuality is, to say the least, doubtful, although an anatomical distinction may exist.

We regret to add that, in addition to the radical defect in plan, many minor errors in the statement of fact have crept into the book, which cannot be noticed here. We must state, however, that the writer has gone back twenty years in considering fracture and hemorrhage as concomitants of concussion of the spine. Some day we shall hear that a broken bone is occasionally found in cases of ecchymosis! Like too many neurologists, Dr. Ross seems to think that there is a great gulf between nervous and mental diseases, so that he scarcely makes mention of general paralysis, and falls into numerous errors in his statements in regard to mental symptoms in general.

On the whole, although the book has much of good in it, it is not useful as a clinical guide to diagnosis, and its faults of arrangement are so great as to render it extremely inconvenient for the class for whom it was intended. The author's style, moreover, is obscure, his grammar is sadly defective, and the book contains too many unusual expressions, such as "le haut mal" in epilepsy, "spasmodic paralysis," and "sclerosis in patches."

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### THE PHYSIOLOGY OF THE HAREM.

ORIENTAL woman has for many generations occupied a position in which the one element of sexuality has absorbed into itself all other qualities and functions of her existence. Sex, *et præterea nihil* has represented her value and significance in the national economy, and that not for the primary end of reproduction but of sensuous gratification. The effects of this condition upon her physical and moral nature have been sufficiently illustrated to the western reader by the concurrent testimony of travellers and by the coloring imparted to the poems of Moore and Byron. The physiological results of this mode of life have not, however, beyond the general and obvious statement that the women matured very young, been given us in satisfactory detail.

Much has been said of late of the prejudicial effect upon the maternal function produced by extraordinary intellectual activity in women, and it has seemed that the higher education, with late marriages and much study, was not a favorable preparation for fruitful motherhood. But it is not without interest to know that the women of Turkey, educated almost from birth with a sole view to the stimulation of the generative functions, are quite as infertile as the blue-stockings of New England. Dr. Zambaco, of Constantinople, presented a communication to the Gynecological Section of the last International Medical Congress at Copenhagen, on the general subject of the physiology of oriental women, which has appeared in the report of the Congress and will well repay perusal, not only from its intrinsic interest but because of the light which it throws on the effects liable to follow sexual precocity in any country.

Circumcision is practised, according to Dr. Zambaco, almost universally upon Mussulman girls in all classes of society in Egypt and Arabia. In Egypt, the operation is performed at about the age of seven as with boys. Great ceremonies attend the event. The girls walk in files or ride in carriages to the scene of the operation, decked in all the finery their parents

can give or borrow. The operation is performed by a woman, who makes it her trade. It consists in cutting off the clitoris with scissors, and dressing the wound with hæmostatic powders. The children are taught to look forward to the operation with anticipation and with their precocious little minds clamor for it as the necessary condition antecedent to their marriage. It is in fact indispensable for marriages in these countries, as no man of the lower classes will consent to marry a girl who has not been circumcised. In Constantinople, under the influence of European ideas it has been largely done away with, at least as a preliminary to marriage, in the families of the government officials and others, though it is said to be common for the husband to instruct the midwife to perform the operation immediately after the birth of the first child.

The Ottoman Empire includes a wide range of nationalities with different habits and religions and climates, the temperature varying from  $46^{\circ}$  C. to  $-30^{\circ}$ . Yet the differences in the physiological condition of the women seem not to be racial, or even climatic, so much as the product of social habits affecting the precocity of sexual development. Among the Mussulmans these influences are at a maximum. From earliest childhood the conversation to which girls listen, the whole atmosphere in which they live, is permeated with the one thought of sexuality. Hence menstruation begins at nine or ten years in Egypt, Bagdad, and Arabia. In the Soudan it is even earlier. In Constantinople and its environs, the function is established among the Turkish girls at from ten and a half to twelve years, while in villages a little more remote, where the customs are more rigid, and also among Christians, Armenians and Greeks, the average date is two or three years later. Circassian slaves who remain in their native land till they are grown up, menstruate at fifteen to seventeen, while if brought when young to Constantinople and exposed to the life of the harem, they menstruate at twelve or thirteen.

In Albania, a mountainous country, where female virtue is well preserved, maturity comes late, at seventeen years. This is the case both with Christians and Mussulmans. The latter are not veiled or sequestered like other Mahometans, and their intercourse with men is on much the same terms as in our own country. The menopause comes late and they often bear children at forty-eight or forty-nine years of age.

Of course it may be true that the climatic conditions are the primary cause of the tardiness of the menstrual function, but, if so, they act through the medium of quiescent sexual emotions, and the inference from Dr. Zambaco's paper is that such a mental state is not merely the product of a low temperature, but may also result from an unstimulating character of the social atmosphere.

Mussulman women have such a horror of pregnancy as being likely to destroy their shape and beauty, as well as to cause alienation of their husbands in favor of a non-pregnant rival, that abortions are universal.

They are spoken of freely in the social and domestic circle, and performed openly and as a matter of course. For these reasons, as well as on account of the incapacity for conception of these overstimulated sexual organs, despite the opportunities afforded by polygamy, the population fails to increase to any extent. It is true that one pasha had eighty-five children by forty-four women, but with increasing poverty of the people, fewer men can afford multiple marriages and so the births among the Mussulmans are on the whole diminishing. Armenians and Greeks, on the other hand, rarely perform abortions, and Jews never.

Marriage among the Mussulman girls takes place usually before menstruation is established, namely at nine to ten years, and sexual relations are at once established. The result is various local derangements, and *very small fecundity*. One or at most two children represents the average productiveness of Mussulman women. The effect of this overstimulation of the generative function is further seen in a premature menopause, and early fading. The few women who marry late are also likely to complete their sexual existence early. In the one class of cases the sexual career is shortened through exhaustion; in the other through lack of function.

The atrophy of the sexual sense is rare enough in Turkey; we occasionally see it in one of the extremes of our own civilization, where muliebrity has perished from inanition. The Harem and the "Higher Education" may lead by widely divergent paths, to a common goal, sterility.

#### THE DOCTOR BEFORE THE LAW.

Suits for malpractice are comparatively not very common in Boston, but they seem even less common than they really are. Each physician, and particularly each surgeon, knows very well that he is liable at any moment to become the defendant in a suit for damages, and when the suit comes he accepts it as an unfortunate but unavoidable incident in his life; he meets it as his temperament and pecuniary ability enable him to do, and the matter may not be known beyond his most intimate circle. The third trial of a suit against a well-known practitioner of Boston, has just been concluded. The plaintiff has three times failed to convince a jury of her countrymen that she was deserving of remuneration for any real or fancied injury, each trial resulting in a disagreement.

The profession can but feel a deep interest in the defendant in these suits, if for no other reason than because he illustrates the relation in which the defendant in a malpraxis suit stands towards the law of the State and its exponents, the lawyers. Now our laws are framed on the principle of allowing to the humblest citizen of the Commonwealth the freest possible access to the courts, to the end apparently that neither wealth, education or social position shall afford any advantage. In accord with that principle, suits for damages are allowed to be entered without the

slightest surety on the part of the plaintiff of an ability to meet the requisite expenses, or assurance that the suit has even a pretense of honest ground to stand on. It needs only a person who has undergone surgical treatment, and a lawyer willing to enter upon such a suit on speculation or with the understanding that his fees shall be proportional to the amount of damages. In its care for the plaintiff and its anxiety to prevent oppression, the State affords every facility for such a suit and enforces no penalty for suits improperly brought. So easy is the introduction of suits that the State might almost be said to favor, if not to be a party to, blackmail. The principle that a man must be regarded as innocent until proven guilty would almost seem to be reversed in the case of a physician, so that the physician is to be regarded as guilty of malpraxis unless proved innocent. The original object of the laws would seem to be lost, and in the present constitution of society they offer facilities, which lawyers — not always regarded even as unscrupulous — are not slow to embrace, to manufacture business and oppress the supposed oppressor.

It is doubtful if any one would desire to make the doctor any less responsible for the exercise of due care in the treatment of his patients, but it would seem only proper that the introduction of suits for damages should be a little less easy.

Other countries and some States require sureties from the plaintiff before suits can be entered. We do not believe such a regulation in Massachusetts would injure the humblest citizen. The protection of the doctor certainly requires that, when a plaintiff has failed to gain a verdict after a certain number of trials, something more shall be required to renew such a suit than the mere willingness of a new lawyer to take up the case.

It is not an uncommon thing — and we know of at least one hospital surgeon so situated at this writing — that a suit should be brought against a physician which the plaintiff's lawyer straightway proposes to compromise for a certain sum, supporting such a proposition to the defendant with the effective argument that even if he (the physician) should win the case the expenses incurred would be at least double the amount of the compromise. However conscious of the justice of his cause the doctor may be, it is difficult to resist the force of such a statement; unless the doctor happens to be in the rare but fortunate position where a few hundred or thousand dollars more or less are a matter of little consequence.

It is true that corporations share with our medical brethren these perils and hardships at the hands of the law, but they are, at least, better able to support an injustice, and to recoup themselves by making the public bear the loss thus caused.

#### THE HEALTH OF BEER-DRINKERS.

MEDICAL examination of a thousand employees of the various breweries of New York and vicinity, which has for some time been in progress, under the

auspices of the United States Brewers' Association, has now been completed, and the results are to be published in pamphlet form.

The report starts out with a quotation from a work on physiology, which maintains that the constant use of beer is found to produce a species of degeneration of a great part of the organism, profound and very deceptive. Fatty deposits, diminished circulation, congestions, general disturbances of various organs, and inflammation of the liver and kidneys, are stated to be its constant results. As a result of the present investigation, this allegation is denied, and the report declares that no medical statistics have ever been produced in support of it. It is claimed that, in all ages, beer-drinking nations have been remarkable for their intrepidity, strength, and vitality, and that it was not until after the general introduction of ardent spirits into England that the enervation of the masses was spoken of in connection with intemperate habits.

With a view to ascertaining in a trustworthy manner the effects of the use of malt liquors, the physicians of the Brewers' Benevolent Bureau (which was established about five years ago for the relief of their sick employees, and for the assistance of the families of deceased workmen) were instructed to examine one thousand of these men as to their general state of health, and the condition of the liver, kidneys, and heart. Also to weigh and measure every man, to test his strength by the dynamometer, and report his age, length of time employed in breweries, and average daily quantity of beer consumed by him. Of the one thousand men, twenty-five were recorded as unsound; and of these, seven suffered from diseases of the liver, one from cardiac disease, five from diseases of the kidneys, one from emphysema, six from rheumatism, two from jaundice, two from bronchitis, and one from pulmonary tuberculosis. It is concluded, from the observations made, that the use of malt liquors, notwithstanding the large quantities habitually consumed, cannot be regarded as injurious; that the death-rate among brewers is lower by forty per cent. than the average death-rate among the urban population of the groups of ages corresponding to those to which the brewery workmen belong; that the health of the brewers is good; that diseases of the liver and kidneys occur but rarely among them; and that, on the average, brewers live longer and preserve their physical energies better than the average workman of the United States.

The statistical tables collected, however, are said to show that the majority of the men examined were under forty years of age, while a large number were in the twenties. Many of them have not been employed in the breweries over ten years, and some only from three to six years. While the record of the weight does not show much obesity among them, perhaps owing to the hard nature of the work, still the average weight is good, comparatively few weighing less than one hundred and forty-five pounds, with a proportionate circumference of chest.

We fear this is another example of the facility with which statistics in skilful hands may be made to prove any desired position.

#### UNFORTUNATE RESULT OF ONE OF PASTEUR'S "INTENSIVE INOCULATIONS."

PASTEUR seems by no means to have an easy time in his humanitarian endeavors. Not only is the protective power of his inoculations denied, even by colleagues of his in the learned societies, but it would appear that one of his recent "intensive inoculations" has resulted in the death of the patient.

It is bad enough, say the opponents of Pasteur's methods, if protective vaccination does not *protect*; it is immeasurably worse if it is liable to communicate the very disease from which it is designed to give immunity.

M. Peter, a determined anti-microbist and opponent of anti-rabic inoculations, seems to have taken a grim satisfaction in reporting to the Academy of Medicine (session, January 4th) the details of the case to which we have referred. The facts are as follows:

A young Parisian, Reveillac by name, was bitten on the finger by a mad dog, November 9th, ult. Two days afterwards he applied to Pasteur at the laboratory Rue Vauquelin, where inoculations, according to the new "intensive" method, were practised in the hypochondriac region; Pasteur's assistant going from the mild virus to the severe, and *vice-versa*, for twelve successive days, three inoculations a day being given. The health of the young man remained good for about a month, when, after premonitory pains in the cicatrices of the inoculation-punctures there ensued malaise and prostration, spasms of the œsophagus with more or less difficulty of deglutition, finally paralytic symptoms and death on the sixth day with frothing at the mouth. At no time was there any pain in the finger that was bitten, though the pain in the site of inoculation was a marked and constant symptom.

Peter, in commenting on this case, had no doubt that the young Reveillac died from paralytic rabies, a form of the disease almost unknown in man; he called particular attention to the fact that the fatal malady commenced with pains over the hypodermic punctures, which seemed to him strongly suggestive of the true cause being the inoculations, and that while there was no actual hydrophobia, and no constant sputation, yet there was difficulty of deglutition of liquids and frothing at the mouth at the moment of death.

It is regrettable that there was no autopsy on the young man, and that one important link of evidence was not furnished, viz. the induction of the disease in animals by inoculating them with portions of the medulla of the unfortunate victim.

#### MEDICAL NOTES.

—The *Medical Record*, looking upon the chances of a physician's obtaining pay for his services as dependent on the earning capacity of the head of the fam-

ily, says that there are about eleven million heads of families in this country. Estimating their incomes on the same basis as that of English tax returns, there are only about one hundred thousand families having an annual income reaching \$2,000, and only about thirty-five thousand having an income equalling or exceeding \$5,000. Out of fifty-five millions of population, forty-five millions earn \$15 a week or less.

—At a meeting of the Geneva Medical Society, writes a Swiss correspondent of the *British Medical Journal*, Dr. Goetz stated that, following the recommendation of Dr. Huchard, he used antipyrine as a hamostatic in three cases of bleeding. One was a case of severe and prolonged epistaxis in a young man suffering from hemorrhagic purpura; the second was a case of bleeding from the gums after the extraction of a tooth; and the third was a case of metrorrhagia from uterine fibroid. In the two former cases the drug was employed locally in solution; in the third, one gramme of antipyrine was incorporated in a gelatine pessary.

—The *Northeastern Lancet*, in commenting upon the zeal with which the lay press seizes upon reports of startling surgical operations, cites the following description, which was thought important enough to be cabled across the ocean to a New York daily paper. "On Tuesday of last week a slater fell from the scaffold of a house, a distance of eighteen feet, to the ground. He was carried to the St. Thomas Hospital, suffering extreme agony. No bones were found to be broken, but Wednesday, Sir William McCormac, in diagnosing the case, came to the conclusion that the bladder had been ruptured. The man was put under an anæsthetic, an incision was made into the abdomen and the diagnosis verified. The contents of the stomach and perineum were withdrawn. The bladder was drawn out, a suture made, the organs all replaced, the stomach thoroughly cleansed with antiseptics and the incision closed. The patient emerged from his insensible condition relieved of pain, and Thursday was in a comfortable condition and is now declared practically out of danger." Whether the "contents of the stomach and perineum" were put back again after being withdrawn is not stated. In this connection we note a despatch from New York to a Boston daily paper to the effect that a noted actor has had "a very delicate surgical operation" performed upon his nose. "Something like a cataract" had been growing in the right nostril for years, and was successfully removed.

#### NEW YORK.

—The Hospital Saturday and Sunday Fund, up to January 14th, amounted to \$42,796.

—The annual meeting of the Pathological Society was held January 12th, when the following officers were elected: President, Dr. T. Mitchell Prudden; Vice-President, Dr. W. P. Northrup; Treasurer, Dr. John H. Hinton; Secretary, Dr. Wesley M. Carpenter; Editor, Dr. John C. Peters.

—On the 12th of January six cases of small-pox

<sup>1</sup> See this Journal, Vol. CXV., p. 567.

were reported to the health authorities, the first that have occurred in the city, so far as known, since November 1st. Several of them were among Spanish sailors, who were found in lodging-houses, and in consequence of these cases and the recent small-pox scare in Brooklyn, a very lively demand for vaccine virus has arisen.

—The annual meeting of the New York County Medical Association was held at the Carnegie Laboratory, January 17th, when the following officers were elected: President, Dr. John Shrady; Vice-President, Dr. J. R. McGregor; Recording Secretary, Dr. P. Brynberg Porter; Corresponding and Statistical Secretary, Dr. Glover C. Arnold; Treasurer, Dr. Charles Ellery Denison; Member of the Executive Committee, Dr. Edwin Saunders.

—Measles still continue to be increasingly prevalent. During the week ending January 8th, there were reported 497 cases, with 65 deaths; and during the week ending January 15th, over 700 cases. The sanitary authorities complain that physicians in charge of cases in schools and charitable institutions do not report the disease when it first appears, and it is often not until one or more deaths have occurred from it that they become aware of its existence in these institutions. Dr. James B. Taylor, Chief of the Fourth Sanitary Division, has made a report to the Board of Health, in which he states that proper precautions are not taken as to isolation and disinfection, both in the care of measles and of diphtheria, which is also on the increase. In it he recommends that circulars should be distributed among the tenement-house population, containing suitable recommendations and advice, and calling attention to the Willard Parker Hospital on East Sixteenth Street, where measles and diphtheria are treated free by experienced physicians.

—At a meeting of the Society of Medical Jurisprudence and State Medicine, held January 13th, the subject of discussion was "How shall the death penalty be inflicted?" It was opened by Dr. N. E. Brill, who read a letter which he had received from the Committee on Capital Punishment appointed by the State Legislature, asking his views on the subject. In reply he stated that he had expressed the opinion that hanging was barbarous; quoting Dr. Hardy, who had attended numerous executions by this method, to the effect that he never in a single instance saw death occur by a broken neck. Dr. Brill considered the most humane method that of the guillotine, and said that he was opposed to electricity because dynamos were too expensive; to prussic acid because its action was indefinite and often caused violent convulsions; and to the garotte because it frequently failed. Among those who took part in the discussion were Dr. John C. Peters, who favored the garotte; Dr. McLaurie, who advocated carbonic acid gas; Mr. W. H. Russell who thought the criminal should be delivered over to a commission of selected scientists who should take his life in the interests of science; and Dr. Wood and Mr.

D. S. Riddle who believed that the present method of hanging was not necessarily brutal, and that it had more effect in deterring others from committing murder than would be the case with any of the other proposed plans.

### Miscellany.

#### HOMEOPATHY, AS REGARDED BY ONE OF ITS LEADERS.

JOUSSET, of Paris, is unquestionably one of the lights of homeopathy on the Continent of Europe. His recently published "*Leçons de Clinique Médicale*" is in some respects a model of its kind. According to this authority, the homœopath of to-day no longer affirms the mysterious potency of the globe, or the all-sufficiency of the doctrine of similars, but claims to be, in the true sense of the word, eclectic.

"Hahnemann and his pupils," he says, "pretended that homœopathy was the *whole* of therapeutics. This is a complete misconception of the case; homœopathy is but a *part* of therapeutics; this is a truth which has cost us many execrations from men in our own ranks, but is now held to be indisputable.

"The fact is, homœopathy cannot take the place of *palliative* medication; nor of *surgical* medication; nor of *antidotal* medication in cases of poisoning; nor of *parasiticide* medication, wherever clearly demanded; nor of medication by *mineral waters*, which often cures where other modes of treatment fail; nor of *hydrotherapeutic* medication; nor of medication by electricity; nor even altogether of *empirical* medication. Homœopathy is not everything, and liberal medicine must include all collateral modes of treatment."

Jousset repudiates the allegation that homœopathy is a *sect*, and affirms that it is simply a branch of medicine which has to do with the therapeutics of certain internal disorders, and not even all of these are amenable to treatment by the law of similars (for example, helminthic diseases). This same writer, who seems to have a some following in France, and may be said to represent the advanced thought of his school, gives some pretty hard blows at the advocates of infinitesimal doses, who, he intimates, have brought discredit upon homœopathy, and affirms that "the school of high dilutionists is losing ground every day, and in France, as in Germany and America, the general tendency is to employ the low dilutions."

#### THREE CASES OF SUPPURATION OF THE FRONTAL SINUS.

THREE cases of suppuration of the frontal sinus, or empyema of the frontal sinus, as they are called by the author, Dr. Borthen, are reported in the *Revue Internationale des Sciences Médicales*, 1886, No 34, *London Medical Record*, December 15, 1886. Case I. Woman, aged fifty-six. The disease began two or three years ago with headaches almost continual, and so violent as to cause vomiting. Intense coryza followed. After some time a tumor slowly developed at the internal angle of the orbit. Examination: right eye looks down and out, slight exophthalmos, right pupil about one centimètre lower than left; peculiar physiognomy. Between the lacrymal sac and the globe of the eye is a swelling about three centimètres

long, which is felt within the orbit as far as the finger can reach; fluctuation; skin normal. Slight pain on pressure below eyebrow, but no sign of cerebral compression. Movements of eye impeded, no diplopia, vertigo on closing sound eye. Thick pus escaped on exploratory puncture. Treatment: incision; evacuation of four or five teaspoonfuls of thick yellow pus; washing out with a solution of salicylic acid, and drainage, a little silver tube being left in the wound. Improvement rapidly followed, but there was still a slight discharge. Case II. Woman, aged fifty. Tumor at internal angle of orbit; no deviation of eye. Severe headaches preceded tumor. Treatment as above; incision, emptying, and drainage. Cure in a fortnight. Case III. Woman, aged thirty-three. Disseminated choroiditis and slight swelling in left orbit, internal half. Elastic tumor felt within orbit. Left eye six millimetres lower than right. Diplopia on looking to right. Headaches and violent pains in back of neck. Sleeplessness, nausea, anorexia. Treatment: skin incised, and tendon of superior oblique muscles reached and divided. Cyst punctured and washed out with a four per cent boric acid solution. Between one and two ounces of yellowish viscous fluid escaped. Drainage. An intense coryza came on some days after operation. The abscess healed, but slight diplopia persisted.

#### SALOL.

This new compound, introduced by Menck, is a derivative of salicylic acid, one atom of hydrogen of which has been replaced by the phenol group (*Pharmaceutical Journal*). Possessing antipyretic and antiseptic properties, it is hoped that it may prove of service in cases in which the salicylate of soda is badly borne. Its physical characters are those of a white powder of faintly aromatic odor, almost insoluble in water, and perfectly tasteless. In the organism, the compound becomes split up into the salicyl and phenol elements; both may be detected in the urine, which becomes very dark, as happens after the ingestion of carbolic acid, of which salol contains thirty-eight per cent. The splitting of the compound is believed to take place in the duodenum, under the influence of the pancreatic digestion. It is remarkable that no toxic symptoms appear to have resulted from the employment of salol. — *Medical and Surgical Reporter*.

#### A CASE OF HERNIA INTO THE UMBILICAL CORD.

The following case occurred at Queen Charlotte's Lying-in Hospital, under the care of Dr. Hope, and is described in the *Lancet* (Oct. 23): In the afternoon of August 25th, Mr. Harries, acting House-Physician, was summoned to the Labor Ward to see a child just born, who, the nurse said, had a swelling in the umbilicus. The child was a healthy-looking boy, who, with the exception of the rare congenital malformation described, was in every respect well developed, and weighed seven and one-fourth pounds. A hernial protrusion into the umbilical cord was found, about the size of a hen's egg. Upon examination, Mr. Harries concluded that he had to deal with a partially reducible enterocoele, with a sac, the neck of which was formed by the skin, and the fundus by the coverings

of the cord, and with the umbilical vessels spread out over the right side of it. In the absence of the visiting physician, Dr. Hope, he decided upon the following operation: Mindful of the inevitable results of separation of the cord and the exposure of the enclosed intestines, the child having been anesthetized with chloroform, the sac was opened. The contents of the sac were both large and small intestine, of which five inches of the latter were adherent to the interior of the sac. The bowel beyond, being slightly congested, was quite healthy, and was dissected off without any great difficulty. What he believes to have been the vermiform appendix was so intimately fused with the tissues of the cord as to render dissecting it off impossible; it was, therefore, ligatured with fine carbolized catgut, and divided close to the sac. After slightly enlarging the hernial opening, the whole contents of the sac were returned into the abdominal cavity. The opening was then closed with a double ligature of thick catgut, in exactly the same way as a navus is strangulated by Liston's method. The cord, with the sac, was then cut off about half an inch from the umbilicus. The operation was performed with every antiseptic precaution, and the wound dressed with corrosive sublimate gauze.

During the next fourteen days the wound was dressed twice, and each time looked quite healthy; at the end of that time, the small remaining portion of the cord separated, and the ligature was removed, the opening being firmly closed. After the operation the bowels acted naturally, and the child took its nourishment freely, some slight sickness being the only trouble. During a rapid convalescence, no symptoms of importance were manifested.

#### Correspondence.

##### AN OFFICIAL MEMENTO MORI.

Boston, Jan. 14th, 1887.

MR. EDITOR,—The alacrity with which the law-abiding physician complies with the requirement as to the notification of infectious diseases, is not enhanced by such experiences as the following:

A gentleman, of nervous temperament, was attacked with diphtheria. The diagnosis was made to the family but on account of the nervousness of the patient was not at first imparted to him. Due notice was sent to the office of the Boston Board of Health. On the following day the customary circular was forwarded from the latter office in a sealed envelope to the lady of the house, who read and inwardly digested it. Almost immediately another circular was sent to the patient himself. As he was able to read his letters his mail was sent to his room and with it the document in question. Nothing on the envelope revealing its character, he opened and read of the dreadful nature of the malady, of the precautions to be taken for disinfection, and finally of the treatment which was to be given to his body after death and of the precautions proper to be observed at the funeral. The cheerful and diverting effect of the communication can easily be imagined.

The question that suggests itself is this: admitting the necessity for public protection of notifying the householder of the precautions to be preserved, why should not the notice be sent unsealed, to be read by whoever happens to be for the time in charge of the domestic economy? Or, if the notice must be sent under seal, why is it not sufficient to send it to the one of the presumptive heads of the family who is not sick? Postage costs something. One circular is as good as a dozen and the patient cannot be depended upon to disinfect his own clothing and dis-

charges, while to impose upon him the task of planning out the details of the placing of his body in the coffin with disinfectants and the hermetical sealing of the coffin, is hardly fair to the undertaker. Yours truly, F.

#### CASE OF DEAFNESS FOLLOWING A BLOW.

2a Beacon St., BOSTON, Jan. 14th, 1887.

MR. EDITOR.—The communication from Dr. Coggin, of Salem, January 6th, relative to a case of sudden deafness following a blow, recalls a case of mine which recently came under observation.

A girl of sixteen applied at my clinic at the Carney Hospital for the relief of unilateral deafness and presented

this history: Four years before, while returning from school, she was maliciously attacked by boys, who severely snow-balled her. A hard, icy mass, thrown with force, struck upon her right ear (over the surface of the temporal bone, opposite the meatus properly.)

She immediately felt pain in the ear which continued until the next morning.

Coincidentally with the receipt of injury and persistently thereafter total loss of hearing was also complained of. No other symptoms were at any time present.

Examination of the affected ear at the time of my visit revealed nothing abnormal to the eye. Absolute loss of hearing for both air and bone conduction, as shown by ordinary and by Knapp's test, was proven. Simulation not being likely, the stethoscope test was not used.

Very truly yours, E. D. SPEAR, M.D.

#### REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 8, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Typhoid Fever.	Diph. & Croup.	Measles.
New York	1,439,039	809	350	23.16	19.08	.84	9.96	7.32
Philadelphia	971,363	452	153	11.66	12.32	2.42	6.16	.88
Brooklyn	680,000	341	145	52.14	22.91	1.58	22.70	10.37
Chicago	680,000	—	—	—	—	—	—	—
Boston	380,406	297	72	13.44	17.28	—	7.68	.96
St. Louis	400,000	—	—	—	—	—	—	—
Baltimore	417,220	157	52	16.00	14.08	1.92	8.96	—
Cincinnati	325,000	153	63	22.40	21.60	5.30	7.15	5.85
New Orleans	258,000	108	21	8.28	14.72	—	1.84	—
Buffalo	202,818	—	—	—	—	—	—	—
District of Columbia	205,000	88	24	3.42	13.68	1.14	1.14	—
Pittsburgh	190,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	118,070	—	—	—	—	—	—	—
New Haven	78,000	—	—	—	—	—	—	—
Nashville	60,000	30	10	13.33	13.33	—	—	—
Charleston	60,145	34	9	—	14.70	—	—	—
Worcester	68,383	17	10	11.76	22.64	—	5.88	—
Lowell	64,061	41	22	20.28	12.20	—	2.44	12.20
Cambridge	59,630	21	7	9.52	23.80	—	4.76	—
Fall River	56,863	24	13	17.74	12.48	4.16	—	—
Lynn	45,861	22	5	—	4.55	—	—	—
Lawrence	38,825	14	8	21.42	28.56	7.14	7.14	—
Springfield	37,577	8	2	—	25.00	—	—	—
New Bedford	33,393	15	6	6.66	33.33	—	—	—
Somerville	29,922	—	—	—	—	—	—	—
Salem	28,084	12	6	8.33	25.00	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	12	3	—	25.00	—	—	—
Taunton	25,674	2	0	—	—	—	—	—
Haverhill	21,736	—	—	—	—	—	—	—
Glooucester	21,713	7	3	28.56	—	14.28	14.28	—
Brookton	20,783	6	2	—	16.66	—	—	—
Newton	19,759	5	2	40.00	—	—	—	—
Malden	16,407	15	2	—	40.00	—	—	—
Fitchburg	15,575	8	3	—	—	—	—	—
Waltham	14,626	3	1	—	—	—	—	—
Newburyport	13,716	5	1	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,566; under five years of age 995; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 448, acute lung diseases 451, consumption 379, diphtheria and croup 191, measles 94, typhoid fever 39, diarrhoeal diseases 52, scarlet fever 30, whooping-cough 16, malarial fever 14, cerebro-spinal meningitis 13, puerperal fever six, small-pox four. From diarrhoeal diseases, New York eight, New Orleans seven, Philadelphia four, Cincinnati and Nashville three each, Boston two, Brooklyn, Baltimore, District of Columbia, Lowell, and Cambridge one each. From scarlet fever, New York 12, Brooklyn seven, Boston four, Philadelphia two, Baltimore three, Cincinnati one. From whooping-cough, New York nine, Brooklyn, Boston, Cincinnati, Lowell and Lawrence one each, Newton two. From malarial fever, New York seven, Brooklyn five, Philadelphia and Baltimore one each. From cerebro-spinal meningitis, New York four, Fall River three, Baltimore two, Philadelphia, Nashville, Worcester, New Bedford one each. From puerperal fever, Boston two, Philadelphia, Brooklyn, Baltimore, and Cincinnati one each. From small-pox, Brooklyn three, Philadelphia one.

In the 20 cities and greater towns of Massachusetts, with a population of 1,000,592 (population of the State 1,944,462) the total death-rate for the week was 22.61 against 21.77 and 20.50 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,863,817, for the week ending December 25th the death-rate was 21.5. Deaths reported 3,745; infants under one year of age 853; acute diseases of the respiratory organs (London), 436; measles 182, whooping-cough 75, scarlet fever 71, diarrhoea 40, fever 34, diphtheria 31.

The death-rates ranged from 11.9 in Brighton to 30.7 in Wolverhampton; Birmingham 18.1; Bradford 20.7; Halifax 26.0; Hull 22.3; Leeds 24.0; Leicester 19.8; Liverpool 26.3; London 19.7; Manchester 29.4; Nottingham 20.1; Sheffield 18.6.

In Edinburgh 23.6; Glasgow 22.3; Dublin 28.5. For the week ending December 25th, in the Swiss towns there were 33 deaths from consumption, lung diseases 19, diarrhoeal diseases 12, measles seven, diphtheria and croup five, whooping-cough four, erysipelas one, typhoid fever one.

The death-rates were: at Zurich 13.4; Geneva 16.2; Basle 20.0; Berne 22.5.

The meteorological record for the week ending January 8, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather.			Rainfall.
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	
Saturday, Jan. 8, 1887.																	
Sunday, ... 2	29.735	16.0	36.0	6.0	66.0	56.0	68.0	N.W.	W.	N.W.	18	22	26	O.	C.	C.	—
Monday, ... 3	30.444	7.0	13.0	3.0	55.0	38.0	58.0	N.W.	N.W.	N.W.	19	12	11	C.	C.	C.	—
Tuesday, ... 4	30.638	14.0	20.0	1.0	55.0	79.0	68.0	N.W.	N.	N.W.	19	7	4	C.	N.	N.	—
Wednesday, ... 5	30.294	32.0	35.0	16.0	75.0	71.0	82.0	N.E.	S.E.	E.	8	6	12	C.	O.	R.	—
Thursday, ... 6	29.975	32.0	37.0	28.0	94.0	83.0	80.0	N.	N.	N.	18	13	11	N.	O.	O.	—
Friday, ... 7	30.262	22.0	34.0	16.0	79.0	56.0	68.0	W.	N.	N.	12	11	19	C.	O.	O.	—
Saturday, ... 8	30.460	8.0	17.0	2.0	69.0	72.0	62.0	N.	N.	N.	16	15	15	F.	C.	F.	30
Mean, the Week.	30.258	18.7					68.4										0.65

O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 8, 1887, TO JANUARY 14, 1887.

BAILY, JOS. C., lieutenant-colonel and assistant medical purveyor. Ordered from Department East to New York City, to take charge of the medical purveying depot in that city, relieving Captain Henry Johnson, medical storekeeper, from duty as acting assistant medical purveyor. S. O. 9, A. G. O., January 12, 1887.

BROWN, HARVEY E., major and surgeon. Granted leave of absence for six months, on surgeon's certificate of disability, with permission to leave the Division of the Missouri. S. O. 9, A. G. O., January 12, 1887.

CORSON, J. K., captain and assistant surgeon. Ordered to Fort Coeur d'Alene, I. T.

MUNN, C. E., captain and assistant surgeon. Ordered to Fort Canby, W. T.

BANISTER, J. M., first lieutenant and assistant surgeon. Ordered to Fort Coeur d'Alene, I. T. S. O. 227, Department of Colorado, December 31, 1886.

BARNETT, RICHARDS, captain and assistant surgeon. Leave of absence further extended six months on account of sickness. S. O. 9, A. G. O., January 12, 1887.

WILSON, GEO. F., first lieutenant and assistant surgeon. Leave of absence extended twenty days. S. O. 9, A. G. O., January 12, 1887.

RAYMOND, H. I., first lieutenant and assistant surgeon. Ordered for duty at Presidio of San Francisco, Cal. S. O. 127, Department of California, December 29, 1886.

IVES, F. J., first lieutenant and assistant surgeon. Granted one month's leave of absence with permission to apply for twenty-three days' extension. S. O. 1, Department of the Platte, January 3, 1887.

#### SOCIETY NOTICES.

NORFOLK DISTRICT MEDICAL SOCIETY.—A meeting for Scientific Improvement will be held at the hall of the Roxbury City Guard, 67 Warren Street, Roxbury, January 25, 1887, at 7.45 o'clock. Communications: I. "The Appearance of Intermittent Fever near the Neponset River," James S. Greene, M.D. The discussion will be opened by Harold C. Ernst, M.D., who will also demonstrate some of the forms of the Plasmodium Malarie. II. "Case of Intestinal Obstruction due to Cancerous Tumor of the Ovary," Clement W. Sparhawk, M.D. III. Exhibition of the New Barrett Chloride of Silver Galvanic Battery. S. Allen Potter, M.D. IV. "Report of Cases of Intubation of the Larynx with Exhibition of the Instruments; also, Presentation of Interesting Pathological Specimens," Wm. P. Bolles, M.D. S. ALLEN POTTER, M.D., Secretary.

THE MIDDLETON GOLDSMITH LECTURES, given under the auspices of the New York Pathological Society, at the College of Physicians and Surgeons, corner 23d Street and 4th Avenue. First Course by M. Allen Starr, M.D., Ph.D., Professor of Nervous Diseases, New York Polyclinic. Subject: "Multiple Neuritis, and its Relations to Peripheral Neuroses." First Lecture, Tuesday, January 25th, 1887, 8 P.M. "History of Multiple Neuritis, the Pathology of the Disease, its Varieties and Etiology. Peripheral Neuroses Traceable to Neuritis." Second Lecture, Friday, January 28th, 1887, 8 P.M. "The Clinical

Picture of Multiple Neuritis, Diagnosis of the Disease, Prognosis and Treatment." Members of the Profession cordially invited.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.—The Eighty-First Annual Meeting of the Medical Society of the State of New York, will be held in the Court-Room, in the City Hall, Albany, N. Y., Tuesday, Wednesday, and Thursday, February 1st, 2d and 3d, 1887. Invitation is extended to all members in good standing in County Medical Societies to be present. WILLIAM S. ELY, M.D., President.

WILLIAM MANLIUS SMITH, M.D., Secretary.

#### ERRATUM.

in the JOURNAL of December 30th, 1886, p. 622, 13th line from the top of the left-hand column, in the article entitled "A Reducing Substance in Urine resembling Glucose," "proto-cateclenic acid" should have read "proto-catechuic acid."

#### DEATHS.

Died in Everett, Mass., January 14, 1887, Jonas Franklin Wakefield, M.D., M.M.S.S., aged sixty-one years.

William Perry, M.D., died at Exeter, N.H., January 11, 1887, aged ninety-eight years.

Estes Howe, M.D., died at Cambridge, Mass., January, 1887, aged seventy-two years.

#### BOOKS AND PAMPHLETS RECEIVED.

Papers on Hypertrophy of the Prostate Muscle. By Reginald Harrison, F.R.C.S. 1886. (Reprint.)

Sixty-Sixth Annual Report of the New York Eye and Ear Infirmary. For the Year ending September 30th, 1886. New York, 1886.

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## Original Articles.

## THE USE OF ANTISEPTICS IN OBSTETRIC PRACTICE.

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SINCE Lister announced, in 1866, the value of antiseptics in surgical practice, the whole method of operating has been changed, and the accounts of the results daily obtained by surgeons in our large hospitals, as well as in their private practice, seem almost incredible when compared with the results reported by even those same surgeons only a few years since.

What the use of antiseptics has done for surgery it is now doing for obstetrics, and the object of this paper is to present as clearly as possible the value to be derived from their use in obstetric practice, as shown by the results obtained in the Boston Lying-in Hospital.

As early as 1847, Semmelweis declared that puerperal fever owed its origin to the absorption of decomposing organic matter, and was only a form of pyæmia. In 1860 he modified<sup>1</sup> this statement by the admission that, while still being pyæmic in character, it might also arise from the decomposition of the lochia, blood-clots, necrosed or placental tissue. With a view of preventing its invasion, he recommended the use of disinfectants. His theories and recommendations were received with ridicule, and it is only within a few years that it is admitted that in his teachings were the first foreshadowing of the true nature of this dreaded disease.

It was not until Lister, realizing the significance of Pasteur's investigations, had announced (1866) his views on antiseptic surgery, that Stadfeldt, in Copenhagen, endeavored to introduce the same method of prophylaxis in obstetric practice.

The reform has come about slowly, and the chief hindrance has been in the fact that the profession do not agree as to what is meant by the somewhat vague term, puerperal fever. The famous discussion,<sup>2</sup> which took place in the Obstetrical Society of London in 1875, on the relation of puerperal fever to the infective diseases and pyæmia, is still fresh in the memory of the members of this Society, and the result of the discussion was successful rather in bringing forward a distinct and fair statement of the various views held by the speakers, than in obtaining any expression of a positive united opinion of the leaders in the obstetric practice of that day. Nor would the history of the gradual change, which has occurred in the profession with reference to this subject, be complete without an allusion to the discussion<sup>3</sup> which took place before the New York Academy of Medicine in December, 1883, and February, 1884, the main interest in which centred in the addresses of Drs. Fordyce Barker and T. G. Thomas, the former claiming that puerperal fever was a distinct disease, developed like other zymotic diseases, and the latter pronouncing it to be unquestionably a form of septiciæmia.

There can now be no question that the weight of evidence is in favor of those who claim that what was formerly known as puerperal fever is septiciæmia, identical in its origin, course, and results with the surgical septiciæmia, which was formerly so dreaded in the sur-

gical wards of hospitals, and in the private practice of surgeons. It is, moreover, now clearly recognized that all puerperal inflammatory affections, such as ovariitis, cellulitis, metritis, peritonitis and the like, owe their origin to infection.

Those, however, who were willing to admit the truth of these statements were in doubt, until the appearance of Koch's work on bacteria, as to the probable source of the infection, and were, until Koch's monograph on the subject was made public, inclined to accept the theory long ago advanced by Semmelweis that the infection might either come from outside the patient, or owe its origin to spontaneous generation within. The announcement of the discovery of bacteria, and the important part which they played in various morbid processes turned the attention of obstetricians to what the bacteriologists were doing in the laboratories of Europe and this country, and to-day it is unquestionably admitted by many leading obstetricians that the infection in these cases must come from without.

That we may at the outset clearly understand just what the bacteriologists claim, the following brief statement, kindly furnished me by Dr. Harold C. Ernst, the Demonstrator in Bacteriology in the Harvard Medical School, must be of value:

"Innumerable investigations have shown, as one of the best established facts of medical knowledge, that the suppurative processes, and many of the acute diseases known as 'infectious,' are due to the activity of the lower forms of life known as 'bacteria.' This is especially the case with that class of affections which may be called 'maladies following wounds.'

"It may be considered proven by the experiments which have been made to determine the fact that, in the healthy human organism, there exist no bacteria. On the skin and mucous membrane they are constantly present, and in great variety, but, so long as these surfaces are intact, the most virulent organism known will do no harm. So soon, however, as there is a solution of continuity, and the bacterium is able to gain an entrance into the tissues of the body, just so soon does damage begin, provided the organism be possessed of pathogenic powers in the first place.

"The first condition necessary for the hurtful activity of bacteria to become manifest is that there should be a solution of continuity—a wound of the skin or mucous membrane. The second condition is that rather indefinite state of affairs called susceptibility of the system or of the part, such susceptibility being a lowering of the vitality, a depression of the blood-supply, or some more minute change in the cells, which it is beyond our power as yet to definitely describe.

"The classical work upon such diseases as are here spoken of is that of Koch in his 'Wund-Infections Krankheiten' ('Traumatic Infective Diseases of the Skin.'—Sydenham Society). It was this work which first made known the comparative ease with which different varieties of bacteria can be separated from each other, and which gave the great impulse to investigation which has built 'bacteriology' into a science, and has given us the precise methods by which we have learned what we at present know in regard to the infectious diseases.

"One class of these infective diseases are those of which Koch speaks in the book just mentioned, and includes those morbid processes complicating injuries

<sup>1</sup> Die Ätiologie, der Begriff und die prophylaxis des Kindbett-Fiebers."

<sup>2</sup> Transactions of the Obstetrical Society of London, Vol. XVII.

<sup>3</sup> American Journal of Obstetrics, March, 1884.

and operation wounds, that is, septicæmia, pyæmia, progressive inflammation and suppuration, and erysipelas, and, for nothing is more distinctly a wound than the lacerated surface of a uterus after parturition, puerperal fever.

"In the light of our present bacteriological knowledge, the terms pyæmia and septicæmia no longer retain their original signification, for, in Koch's words, pyæmia does not arise, as was at one time believed, from the entrance of pus into the bloodvessels, and septicæmia is not putrefaction of the living blood. These terms can now be used only as collective terms for a number of symptoms which, in all probability, belong to different diseases, that is to say, are produced by the activity of different bacteria. It is only by the observation of these bacteria that one can say with scientific exactness what special form of pyæmia, or septicæmia, may be under observation. That this is distinctly true is proven in the one direction by Koch's observation of the bacillus of mouse-septicæmia, which is fatal to house-mice, and has no effect upon field-mice or rabbits; of pyæmia, septicæmia, and erysipelas in rabbits; and in the other direction by the investigations of Rosenbach, Passet, and others, by which there are shown to be several varieties of bacteria which are active in the production of the suppurative and inflammatory processes in man.

"To what has been said in regard to septicæmia and pyæmia, puerperal fever forms no exception. In spite of Pasteur's work upon the subject, the best investigations show without a doubt that puerperal fever must be considered to be a name given, for convenience, to a group of symptoms which represent the effects of an attack upon the system by one or more varieties of bacteria. The disease is eminently a traumatic wound disease. A woman passing through the puerperal state with no untoward symptoms has never been found to have bacteria in the system, whilst those attacked by 'puerperal fever' are invariably found to have bacteria in the tissues, bloodvessels or lymphatics of the affected parts. The two conditions necessary for the entrance and growth of bacteria are present in the parturient state in a preëminent degree.

"The uterus after parturition is, like any other wounded surface, exposed to the air passing over blood and organic debris, especially exposed to putrefaction and the entrance of bacteria, whilst the profound modification of its tissues, bloodvessels and mucous membranes furnishes the second favorable condition for their growth, after they have obtained an entrance.

"The bacteria make their way in from outside. They are not born from nothing in the uterine tissues. There is no spontaneous generation about it. The vagina contains bacteria in health like the mouth, and, like the bacteria in the mouth, those in the vagina do no harm. Even in a diseased state the ordinary putrefactive bacteria do not change their character, and puerperal fever and peritonitis do not result from their presence. It is only by the entrance of the pathogenic bacteria — and sometimes of more than one variety of these — that a disturbance is produced. These pathogenic varieties are brought to the uterus. They are not there in the first place, and they are brought by the air or some other less usually suspected method of conveyance. The varieties of bacteria, which have thus far been especially connected with puerperal fever are:

"(1) Rather long cylindrical filaments, appearing especially in rapidly fatal septicæmias.

"(2) Streptococci, or micrococci, occurring in chains, common in the milder forms of septicæmia.

"(3) Diplococci, micrococci occurring in pairs, and especially where there is suppuration.

"(4) Micrococci in irregular masses.

"Any or all of these forms may be found in a single case, and there is no doubt that these will be finally resolved into a more distinct and numerous classification.

"The problem is unquestionably how to keep these bacteria out of the body. Without their entrance there will be no puerperal fever or septicæmia."

The above statement gives us concisely the present belief of the bacteriologist as to the ætiology of puerperal septicæmia. The practical results of an application of this theory, and how the problem is being solved is well shown in the clinical history of the Boston Lying-in Hospital.

This hospital, after being closed for lack of public support, was reopened January 1st, 1872. Since that time 3,337 women have been delivered, and the study of puerperal septicæmia, as it has appeared at that hospital, has been one of the greatest interest. During the first year only 160 women were confined, of this number one died, the death being due to puerperal septicæmia. From that time, however, septic infection has been more or less prevalent in the hospital, despite every effort made to prevent its occurrence. On three occasions (November 13th to December 9th, 1879, September 13th to October 30th, 1880, and May 7th to May 28th, 1883), the hospital has been closed; and, before being reopened, every ward has been fumigated and new beds provided. Whenever the hospital was thus closed there followed a period of comparative immunity from septicæmia. For a longer or shorter time the daily temperature would either be normal or much lower than usual. The freedom from anxiety was, however, of short duration, and gradually, despite every precaution we could adopt, the temperatures would begin to run higher and higher; the lochia would become offensive; the tenderness, more or less marked over the abdomen, would reappear, and soon another patient would fall a victim to puerperal fever, and another period of anxiety would begin. During the ten years preceding 1884, the hospital was rarely free from septic disease of one form or another; and, while the visiting physicians were endeavoring in every way possible to protect the patients from septic infection, they were constantly endeavoring to save the lives of those who gave evidence of septic poisoning. In looking back over the records of those years it seems wonderful what success crowned their efforts. An examination of the figures, to which attention will be called later, will show that a very low death-rate was maintained, considering the percentage of septic cases. When we consider the almost constant presence of septicæmia in the hospital a death-rate of 3.04 per cent. from septic causes, in 2,661 confinement cases, which occurred from January 1st, 1873, to December 31st, 1884, must be considered very low.

Dr. W. L. Richardson and Dr. Henry Tuck comprised the visiting staff from the date of its opening until January 1st, 1878, when Dr. A. D. Sinclair succeeded Dr. Tuck, who then moved to New York. Dr. Sinclair resigned at the close of his term of service, March

31st, 1883, and the vacancy was filled, January 17th, 1884, by Dr. Wm. E. Boardman. The office of assistant physician has since 1877 been filled successively by Drs. Samuel Howe, W. E. Boardman, and Charles M. Green. The various changes which have been made, in the attempts to rid the hospital of septicæmia, have been the results of careful study and observations on the part of the visiting physicians, and after many anxious consultations on the subject. As one septic case occurred after another every effort was made to avoid any possibility of contagion from a patient presenting symptoms of septic infection to another. Isolation of suspected cases; the employment of extra and special nurses; the assignment of different house-physicians to the suspected and to those whose convalescence seemed normal; the use of every possible precaution to insure cleanliness; the providing of individual bed-pans, syringes, etc.; constant attention to ventilation and improvement in the drainage, were among the methods adopted. Many of these changes seemed to promise improvement, which however, was always found to be temporary. From the very outset the staff were a unit in the belief, even then not generally accepted, that the views of Semmelweis were correct, and our object was to prevent the introduction of septic material from without, and the prevention of the absorption of septic material originating within the uterus and generative tract. With this latter end in view we soon began the use of vaginal injections, hoping to keep disinfected those parts especially exposed to the lochial discharge, which seemed to us one great source of danger within the patient herself. These were subsequently not unfrequently combined with intra-uterine injections, hoping thereby to also render innocuous the clots, and placental débris within the uterine cavity. All these attempts proved futile, although occasionally it did seem as though some new method of procedure which we adopted was at last to offer the long-sought-for relief. The respite was, however, only temporary, and still the mischief went on. In fact, it not unfrequently happened that, when, out of sheer despair, one of the staff would give up the use of injections, the results he obtained seemed to compare favorably with those reported by his colleague who thought himself, by continuing their use, more conservative.

In the middle of the winter of 1883 and 1884 corrosive sublimate was first tried, not only as a vaginal douche but also for the disinfecting of the hands of the attendants. A very decided improvement followed this method of procedure, and again the outlook was more cheering. Still septicæmia remained with us, but in a more modified form and the death-rate fell decidedly, as will appear from the tables which are presented with this paper.

Then came the announcement of Robert Koch's investigations of bacteria, and it seemed at last as though a better day for obstetric practice and for the hospital was coming. Garrigues, in New York, had adopted the new theory, and had already made public the efforts which he was making in the New York Maternity, and the results he was obtaining. We determined to change our whole system.

Heretofore, following the theory advanced by Semmelweis, we had been trying to prevent the introduction within the system of those elements which, whatever they were, would produce disease, and also to prevent those elements, when generated within the system, from

doing harm. In other words, we had been dreading and fighting attacks from within, as well as from without. We now determined no longer to fight a foe within, which existed only in a false theory, but to accept the theory of the bacteriologists, and prevent the entrance of the foe from the front. If, as we believed, the investigations of the bacteriologists had led to a correct theory, namely, that puerperal septicæmia was the result of the introduction from without of bacteria within the body of the patient, and that it was impossible for a case of septicæmia to be autogenetic in its origin, the problem of prevention became at once a comparatively simple one. How best to solve the details of the problem was, of course, a matter to be determined by experiments.

The vaginal injection during the convalescence, from which, when we adopted its use, we had hoped so much, now seemed to us to be possibly, in one way, a source of as much harm as good and was therefore discontinued. We endeavored to disinfect, as thoroughly as possible, the generative tract at the beginning of labor, lest the dreaded bacteria might already have found a resting place, and was only waiting an opportunity to infect the system, wherever a break of continuity should admit of its entrance; during the progress of the labor, to never allow the patient to be touched by the attending physician or nurse without the use of disinfectants; and the adoption during the convalescence of a disinfected pad, which should still further act as an effective barrier to the entrance of these dreaded germs, until the period of danger was passed.

Stadfeldt,\* in Copenhagen, had, as early as 1870, recommended in obstetric practice the use of carbolic acid as a disinfectant; and Tarnier, in a paper read (1881) before the International Medical Congress, advocated the use of the bichloride of mercury. Other practitioners subsequently recommended other disinfectants, such as thymol, chloride of lime, permanganate of potassium, biniodide of mercury, and many others less known and less valuable as disinfectants. In the Boston Lying-in Hospital, we had for many years used carbolic acid, and since 1884 we had been experimenting with the corrosive sublimate. The relative expense of the two, and the admirable results which Garrigues had already reported,<sup>†</sup> induced us to select the latter as the disinfectant to be used. A pad, somewhat similar to that introduced by Garrigues into the New York Maternity, was adopted, except that we substituted what is known as absorbent waste instead of oakum, experience having taught us that the smell of oakum was itself deceptive, and had often disguised the odor of the lochial discharge.

The method which we adopted in the fall of 1885 was as follows:

On her admission to the hospital, if time allows, the patient is given a bath. In every case the genitals and the surrounding parts are washed with a solution of the bichloride of mercury ( $\frac{1}{5000}$ ). A basin containing the same solution and a nail-brush is placed on a stand side of the bed. The physician and nurse in attendance disinfect their hands every time they have occasion to examine the patient or touch the neighborhood of the vulva. The examining finger is smeared with an ointment made of one part of the oil of eucalyptus and seven parts of vaseline. A vaginal injection

\* Stadfeldt. *Des Maternités*, Copenhagen, 1876.

† New York Medical Record, December 29, 1885.

tion of the corrosive sublimate solution is given at the beginning of labor, and this is repeated, when circumstances permit, at the end of the first stage. As the head distends the perineum and is expelled, the parts are kept clean, when occasion requires, by the use of charpie dipped in the mercurial solution. After the birth of the child, no undue haste is made to bring about the expulsion of the placenta. This is effected, if possible, by Crede's method of expression, great care being taken not to introduce the hand within the vulva, if such a procedure can be avoided. The perineum is carefully examined, and if there is sufficient laceration to require sutures, the parts are washed with the corrosive sublimate solution, after which the edges are brought together by means of carbolic cat-gut sutures, some powdered iodoform being subsequently applied over the seat of the laceration. The vaginal injection is repeated, and the antiseptic pad is applied, being pinned at the four corners to the abdominal binder by means of safety-pins.

During the convalescence the pad is changed as often as occasion requires, the nurse taking care to thoroughly disinfect her hands before removing the pad. Each time the pad is changed, the parts around the vulva are sprayed with the mercurial solution by means of a hard-rubber sprinker, made by the Davidson Rubber Company to fit their syringes, which are the ones used in the hospital. It is usually necessary to change the pad during the convalescence about as frequently as it was formerly necessary to change the napkins which the patients wore before the pad was introduced. If it is necessary to use a catheter to empty the bladder, that instrument is, of course, to be disinfected, as well as the hands of the person using it. Care is also taken, before introducing the catheter, to wash the parts in the neighborhood of the meatus with the disinfectant, in order to avoid the introduction of blood, vaginal or uterine discharges within the urethra.

The use of the antiseptic pad is continued until the patient sits up, or until all danger of septic infection has passed. Whenever the mother has given birth to a putrid child or a partially-decomposed placenta, an intra-uterine injection of the corrosive sublimate of the same strength is given at the close of the labor, in addition to the vaginal one already alluded to. Should it be deemed advisable to give an intra-uterine injection, it is safer, after washing out the uterine cavity with the mercurial solution, to ~~then~~ without removing the nozzle of the syringe, inject a few ounces of a solution of carbolic acid ( $\frac{1}{2}\%$ ) of the same temperature ( $112^{\circ}$ ). By this method, any danger of mercurial poisoning (which sometimes, though rarely, follows the use of corrosive sublimate as an intra-uterine injection) is avoided.

In case it is found necessary to use instruments during the delivery, care is taken to disinfect them by means of a solution of carbolic acid ( $\frac{1}{2}\%$ ). The same solution is used for the needles, needle-holder, etc., which may be required for sewing up any perineal laceration. Carbolic acid is used in these cases, in preference to the bichloride of mercury, on account of the corrosive action of the latter on the instruments. If, for any reason, it is necessary to introduce the hand within the uterine cavity, great care is taken to thoroughly disinfect the arm, as well as the hand of the operator.

The antiseptic pad is made as follows: A strip of

Canton flannel ( $19 \times 4\frac{1}{2}$  inches) is placed upon a table, with the soft side uppermost. On the centre of this is laid a piece of carbolic cotton ( $11 \times 4\frac{1}{2}$  inches), about half an inch in thickness when not compressed. Over the centre of this is a piece of oiled muslin ( $9 \times 4$  inches). On this is placed the pad itself, which is made of what is known as absorbent scrap or waste done up in cheese-cloth, and of a size sufficient to cover the oiled muslin, and about half an inch in thickness, before it is wet or compressed. This pad, before using, is dipped in a solution of corrosive sublimate ( $\frac{1}{2000}$ ) and dried. Whenever a pad, with its binder, is removed and a fresh one substituted, the old pad, including the Canton flannel, oiled muslin, etc., is burnt up.

Formerly, the patients were delivered indiscriminately in different wards, with a view of scattering the patients through the hospital, in order that each nurse might have an equal experience in the care of the cases. Since, however, the new method has been introduced, the labor is kept in one ward until that is filled up, and then passed to the next, the patients, as a rule, remaining in the ward in which they are confined until their discharge from the hospital. As soon as a ward becomes vacant, it is thoroughly fumigated by the use of sulphur-fumes, and the walls are washed down with soap-suds and carbolic acid. The weather permitting, the windows are opened and the ward thoroughly aired before it is again opened for the reception of patients. In case any patient has been confined in the ward, whose convalescence has been in the least suggestive of septic infection, the walls, after being thoroughly washed with soap-suds and carbolic acid, are wiped over with a solution of carbolic acid ( $\frac{1}{2}\%$ ).

Since the fall of 1885 the above has been the method in which antiseptics have been used in the hospital. The results have demonstrated, beyond the possibility of a doubt, the great value of such prophylaxis. In critically examining the results it must be remembered that the drainage, ventilation and hygienic condition of the hospital have been unchanged; the nurses, house-physicians, and medical staff are virtually the same, and the patients are from the same class in the community as before the introduction of the present method of conducting the cases. The only change is in the manner of using the antiseptics during the delivery, and the more frequent disinfecting of the wards than was formerly the custom.

During the present year there have been three deaths, but in no case could the fatal result be ascribed to septic infection, as is readily seen from the following brief record of the cases:—

CASE I. (Service of Dr. W. E. Boardman.) A. S., single, aged twenty, primipara, entered the hospital January 28th. Nervous, despondent. Rigidity of os. Early escape of liquor amnii. Labor, preceded for ten days by an almost constant aching pain in lower abdomen and sacral region, lasted over thirty hours. Girl, weighing seven and six-tenths pounds, delivered alive with forceps. Patient died three hours later of shock and exhaustion.

CASE II. (Service of Dr. Wm. L. Richardson.) M. G., married, aged forty-two, twelfth pregnancy, entered the hospital November 6th, being about six and a half months pregnant. For two months previous to entrance, headache, partial blindness, vomiting and diarrhoea. On entrance, stupid, speech unintelligible.

Urine scanty, containing albumen, blood, fine granular and hyaline casts. Manual dilatation and version. Male child, delivered, weighing three pounds, which lived a few moments. Pilocarpin. Patient remained unconscious and died eighteen hours after entrance.

CASE III. (Service of Dr. Wm. L. Richardson.) L. M., married, aged twenty-four, primipara, entered the hospital November 20th, about eight and one-half months pregnant. Three convulsions before entrance. Unconscious, breathing stertorous. Urine scanty and containing albumen, blood, coarse and fine granular and hyaline casts. Cervix rigid. No signs of labor. Manual dilatation, attempted by Dr. Richardson, unsuccessful. Barnes' dilators failed. Male elastic catheter introduced with a view of inducing labor. Convulsions continuing, visiting physicians unavoidably absent, Dr. C. M. Green, failing to effect manual dilatation, incised the os uteri and delivered, by version, a still-born male child, weighing six pounds. The mother died during the extraction.

With a view of presenting as clearly as possible the results of the various attempts to protect the patients from septicæmia the two diagrams accompanying this paper have been prepared. These diagrams are the result of an analysis of the temperature charts and clinical records of all the cases (1780 in number) which have occurred in the Boston Lying-in Hospital during the last six years.

The first diagram, based on an examination of the temperature charts, gives the percentages of the maximum temperature of each patient during the convalescence.

The second diagram is the result of an examination of the same charts, combined with a reference in some cases to the clinical records and shows the percentages of the number of normal, doubtful and dangerous cases.

With very few exceptions all cases in which the temperature did not exceed 100° are classified as normal; while those whose temperature rose between 100° and 102° are considered as doubtful; all others being classed as dangerous. The few exceptions made in this classification are in those cases where the temperature may have exceeded these arbitrarily selected limits, but where such rise was only transitory and due, as shown by the clinical record, to some clearly defined cause, such for example as mental emotion, indiscretion in diet, etc. In the diagrams and tables the nearest whole percentage has been used, with a view of avoiding fractions as far as possible. An examination of both these diagrams shows very clearly the poor condition in which the hospital was during the time when only a comparatively few patients escaped septic infection.

According to Schröder and Lusk 100½° may fairly be taken as the physiological limit of the puerperal state. Taking 100° however as the standard, simply because the percentages in these tables have been figured regardless of fractions of degrees, it will be seen how gradually a change for the better was brought about until the adoption of the present method of prophylaxis.

Year	Percentage of cases not over 100°, 8	Over 100°, 88.
1881	19	81.
1882	35	73.
1883	53	46.
1884	56	44.
1885	77	22.

The experience of the New York Maternity has

been in many respects so strikingly similar to that of the Boston Lying-in Hospital, that a table showing the results in the two institutions cannot fail to be of interest. In the New York Maternity, as appears from this table, puerperal septicæmia was making sad havoc among the patients until October 1st, 1883, when Dr. H. J. Garrigue, one of the Visiting Obstetric Surgeons, determined to adopt the method of prophylaxis\* which, without any material change has continued in use to the present time, and which is in the main identical with that used in the Boston Lying-in Hospital, since October, 1885.

#### NEW YORK MATERNITY HOSPITAL.

	No. of patients.	Deaths from all causes.	Deaths from sepsis.	Per ct. of all cases.	Per ct. of sepsis.
Oct. 1, 1882-Oct. 1, 1883	429	34	26	7.92	6.06
Oct. 1, 1883-Oct. 1, 1884	505	7	3	1.38	.59
Oct. 1, 1884-Oct. 1, 1885	641	4	1	.75	.16
Oct. 1, 1885-Oct. 1, 1886	453	4	1	.86	.21
In Sept., 1883, the last month before the adoption of the new method of prophylaxis.					
	51	10	8	19.60	15.69

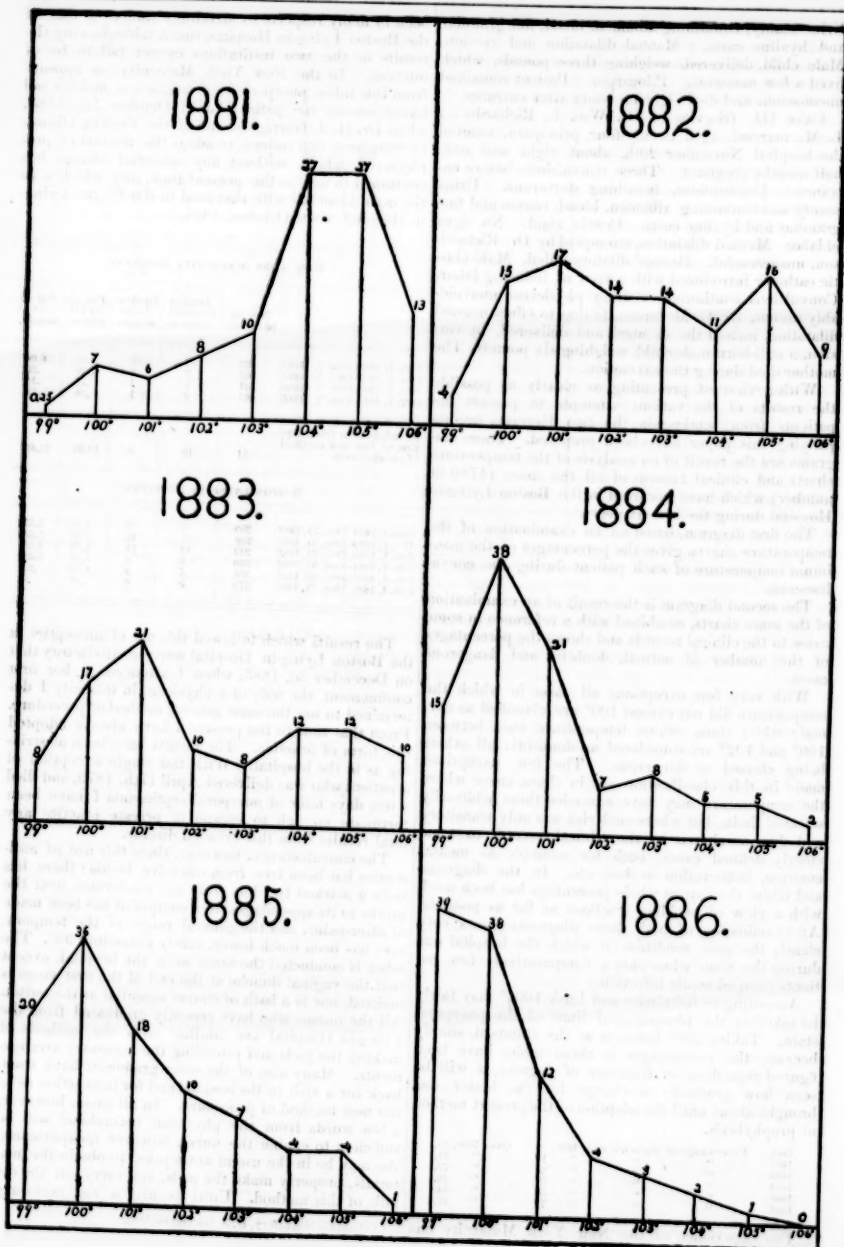
#### BOSTON LYING-IN HOSPITAL.

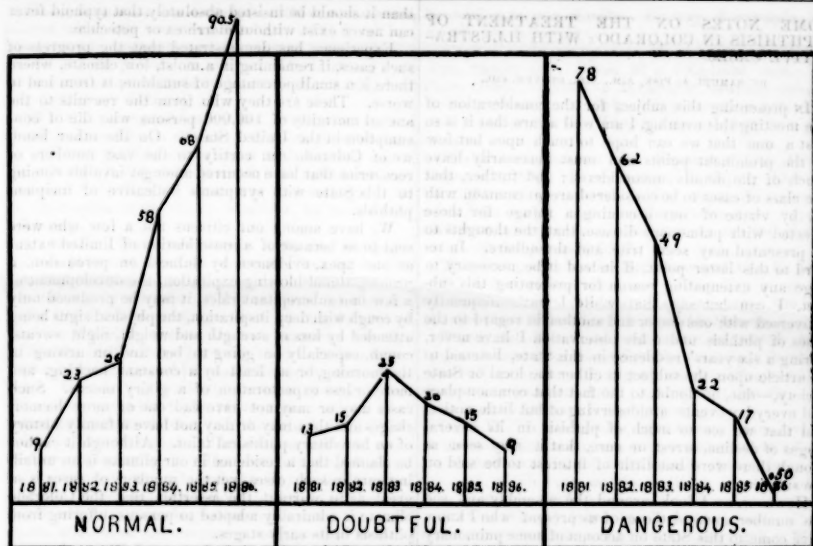
	No. of patients.	Deaths from all causes.	Deaths from sepsis.	Per ct. of all cases.	Per ct. of sepsis.
Jan. 1, 1881-Dec. 31, 1881	229	8	6	3.69	2.31
Jan. 1, 1882-Dec. 31, 1882	368	17	16	5.90	5.55
Jan. 1, 1883-Dec. 31, 1883	242	14	11	6.78	4.58
Jan. 1, 1884-Dec. 31, 1884	319	6	5	1.93	1.61
Jan. 1, 1885-Dec. 31, 1885	306	4	2	1.29	.64
Jan. 1, 1886-Dec. 31, 1886	373	3	0	.80	.0

The results which followed this use of antiseptics in the Boston Lying-in Hospital were so satisfactory that on December 3d, 1885, when I attended, in her first confinement, the wife of a physician in this city I determined to use the same general method of procedure. From that time to the present I have always adopted this form of practice. The results have been as striking as in the hospital. With the single exception of a patient who was delivered April 17th, 1879, and died a few days later of puerperal septicæmia I have been fortunate enough to escape in private practice any fatal results from this dreaded disease.

The convalescence, however, since this use of antiseptics has been free from offensive lochia; there has been a marked freedom from any tenderness over the uterus or its appendages; less complaint has been made of after-pains, and the general range of the temperature has been much lower, rarely exceeding 99°. The labor is conducted the same as in the hospital, except that the vaginal douche at the end of the first stage is omitted, nor is a bath of course essential at the outset. All the nurses who have recently graduated from the Lying-in Hospital are familiar with the methods of making the pads and providing the necessary arrangements. Many also of the older graduates have come back for a visit to the hospital and for instruction as to the new method of procedure. In all cases, however, a few words from the physician beforehand will be sufficient to enable the nurse, however inexperienced she may be in the use of antiseptics, to obtain the materials, properly make the pads, and carry out the details of this method. Until recently it was necessary

\*Antiseptic Midwifery, H. J. Garrigue, 1886.





to buy the various articles of which the pad is composed at different places, but Messrs. Leach and Greene now keep all these materials in stock, and have also the pads all prepared and done up in packages of a dozen, for those who do not care to take the trouble of making them. It is only necessary to dip the pad itself in the corrosive sublimate solution, and subsequently to dry it. In the antiseptic tablet, manufactured by John Wyeth & Brother, of Philadelphia, after a formula of Dr. Charles M. Wilson, we have a very convenient form of ordering the mercurial solution. The addition of one of these tablets to three pints of water at once furnishes us with a solution of the required strength. For an average case between four and five dozen pads are sufficient. Should the patient prefer to make the pads the following materials will be required: four yards Canton flannel, five yards cheese-cloth, three-fourth yard oiled muslin, one pound absorbent cotton waste, one pound carbolized cotton. In either case fifty antiseptic tablets will be sufficient.

The discovery of Koch and the investigations of other bacteriologists have produced practical results, which must be apparent to any one familiar with the reports of many of the Lying-in Hospitals in Europe and America. The adoption of similar methods of prophylaxis in private practice can only be a question of time. The germ theory, upon which this practice is founded, is new and to a great extent contains much yet to be investigated. Sufficient, however, is known to have already produced results which demonstrate the fact, that, to a further study of the germ theory, we must look for still greater advances in that preventive medicine, which is so rapidly reducing human morbidity as well as human mortality. The advocates of the use of antiseptic obstetrics in private prac-

tice will unquestionably meet with opposition on the part of many, who will quote their own experience as evidence that puerperal septicæmia is a disease of extreme rarity in private practice. This may be true, but judging from my own observation in consulting-practice I am convinced that it is not as rare as would appear from the statistics of private practice which so frequently appear in our medical journals or in the records of medical meetings. Many physicians do not follow up their cases, and the number of visits after the birth of the child is frequently very limited. Cases which thus pass from observation are considered successful by the physician in attendance at the delivery, though it may happen that subsequently they are attended by some other physician during a long and troublesome, if not fatal illness. A somewhat extended dispensary service has taught me the truth of this observation.

Kucher, in his admirable book on "Puerperal Convalescence and the Diseases of the Puerperal Period," reports that the statistics of life insurance companies<sup>2</sup> show that of 2,182 insured women, 197 (9.03 per cent.) died from puerperal causes, and that statistical tables indicated that nearly seventy-five per cent. of the deaths during childbed are due to puerperal fever. Even if the danger from septic infection be as slight, as some would have us believe, should we neglect to use every known precaution to reduce even that danger to a minimum? The experience of those who have investigated this subject and practically tested this method of treatment has demonstrated, that absolute asepsis means absolute freedom from puerperal septicæmia, and that the occurrence of puerperal septicæmia means the absence of absolute asepsis.

<sup>2</sup> System and Tables of Life Insurance from the Experience and Records of Thirty Life Offices. Levi W. Meech.

# SOME NOTES ON THE TREATMENT OF PHTHISIS IN COLORADO: WITH ILLUSTRATIVE CASES.

BY SAMUEL A. FISK, A.M., M.D., DENVER, COL.

In presenting this subject for the consideration of the meeting this evening, I am well aware that it is so vast a one that we can hope to touch upon but few of the prominent points and must necessarily leave much of the details unconsidered; and further, that the class of cases to be considered are so common with us, by virtue of our becoming a refuge for those affected with pulmonary disease, that the thoughts to be presented may seem trite and threadbare. In regard to this latter point, if indeed it be necessary to urge any extenuating reason for presenting this subject, I can but say, that while I have frequently conversed with one doctor and another in regard to the cases of phthisis under his observation I have never, during a six years' residence in this State, listened to an article upon the subject in either the local or State society,—due, no doubt, to the fact that common-place and everyday events are deserving of but little notice, and that we see so much of phthisis in its several stages of decline, arrest or cure, that it may seem as though there were but little of interest to be said on the subject.

However, as I look around the assembly and see the number amongst those of us present who I know have come to this State on account of some pulmonary difficulty, and who having found a restoration of health, have said, "Here am I and here will I abide," I cannot feel that the discussion will be devoid of interest and I am conscious that the utmost that I can attempt is to formulate a few ideas which will serve as a theme for the discussion.

There will be found those amongst us who will agree with Flint that: "There is no such affection as a non-tuberculous pulmonary phthisis," and on the other hand there may be those who hold to Niemeyer's theory, backed by the researches of Virchow, that phthisis is frequently catarrhal in origin. Some will believe that Koch and others have proven beyond a doubt that the *bacillus tuberculosis* is the unfailing cause of phthisis pulmonalis, and others are still holding their decision in abeyance.

It is not my intention to even touch upon these disputed points, but rather to treat of the subject in terms which, we shall probably all agree, give evidence of pulmonary phthisis and to cite cases as types and by way of illustration of what I wish to say of the selection of cases to which our climate is adapted; the kind of cases from which we may expect the most favorable results; the precautions that must be observed in order to obtain these results and considerations of a like nature.

We recognize, for instance, a stage of incipency in phthisis characterized by loss of strength and weight, cough, more or less difficulty in breathing, more or less expectoration of a glairy mucus, fever, increased frequency of the pulse, night sweats, hemorrhages, and the physical signs of dulness on percussion, broncho-vesicular respiration, bronchophony, prolonged expiration, and it may be the development of fine subcrepitant râles.

It is not necessary that all of these symptoms should be present in order to justify a diagnosis, any more

than it should be insisted absolutely that typhoid fever can never exist without diarrhoea or petechiae.

Experience has demonstrated that the progress of such cases, if remaining in a moist, low climate, where there is a small percentage of sunshine, is from bad to worse. These are they who form the recruits to the annual mortality of 100,000 persons who die of consumption in the United States. On the other hand, we of Colorado can certify to the vast numbers of recoveries that have occurred amongst invalids coming to this State with symptoms indicative of incipient phthisis.

We have among our citizens not a few who were sent to us because of a consolidation of limited extent at one apex, evidenced by dulness on percussion, a prolonged and blowing expiration, the development of a few fine subcrepitant râles, it may be produced only by cough with deep inspiration, the physical signs being attended by loss of strength and weight, night sweats, cough, especially on going to bed and on arising in the morning, or at least by a constant hacking, and more or less expectoration of a glairy mucus. Such cases may or may not have had one or more hemorrhages and they may or may not have a family history of an hereditary phthisical taint. Although it cannot be claimed that a residence in our climate is an unfailing cure in such cases, yet the numbers of cases is so great as to warrant the assertion that the Colorado climate is admirably adapted to persons suffering from phthisis in its early stages.

Let me cite a few cases by way of illustration and selected with reference to the varying conditions existing.

CASE I. On the 26th of October, 1884, I examined a young man, twenty-one years old, who came from New England with a history of having lost a brother (twenty-two years old) and a sister (sixteen years) of consumption, and having another sister (sixteen years old) sick with consumption — of which disease she died over a year ago. He had always shown a tendency to colds; and in order to throw off this tendency, he had been to Florida, and had also been on a sailing-vessel to Japan. When I examined him he was troubled with a dry, hacking cough, as though there were a constant irritation in his throat. He had indigestion, flushed cheeks, elevation of temperature in the afternoon, rapid and excitable pulse, and a physical examination revealed: expansion, two and one-quarter inches; percussion dull at left apex; auscultation, prolonged and whispering expiration at left apex, with a click or two on cough, with deep inspiration.

To-day this man is entirely free from any cough or hectic. He is living at an elevation of about 8,000 feet, and doing a man's work, and seems well in every respect.

CASE II. On May 1st, 1885, I examined a young man, twenty years old, who had been a jeweller in New York, and who gave the following history: No hereditary taint; he himself had always been healthy, save for a nasal catarrh. In June, 1884, he caught a bad cold, had night sweats constantly, and lost flesh and strength. When I examined him he was very short of breath; coughed, especially in the morning, raised a thick, tenacious sputum, and his voice was decidedly husky. Physical examination revealed dulness at both apices, a broncho-vesicular respiration, bronchophony, and the presence of some fine râles at the left apex.

<sup>1</sup> Read before the Denver Medical Society, December 7, 1886.

This young man has been at work as a machinist almost constantly since he came here. His cough has disappeared; his hoarseness has almost gone. He has gained fifteen pounds in weight. He is strong and well, and shows but little evidence of ever having had any pulmonary difficulty.

The two foregoing cases are average ones; we could find the like on all sides. The one showed signs of incipient phthisis, complicated with a strong taint; the other of incipient disease of both apices, without any taint. Neither of them was hæmorrhagic. As an illustration of the latter condition, let me cite the following:

CASE III. Came to Colorado some nine years ago with a prognosis from an eminent specialist in the East that he could not live six months, because of his hæmorrhagic tendency. For five years he was entirely free from hæmorrhages, and for a good part of the time was able to earn his own support. Finally, in March, 1882, after a hard day's work, he was taken with a hæmorrhage, which was followed by one or two more. He was kept perfectly quiet for several weeks. When he was able to be about again, he one day, about the middle of June, rode horseback twenty-five miles in the afternoon. The next morning he rode the same distance back. The day following he took a long journey by rail, and the day following that he rode horseback some thirty miles. On this followed a slight hæmorrhage, and in about a week afterwards, after some indiscretion, a very profuse hæmorrhage, for which I was called to see him. This was in Estes Park, at an elevation of 7,500 feet. There was some consolidation at the left apex. I speak without notes. I could not find any trace of cavity, and there was no hereditary taint.

Under care, he recovered, so that he gained strength and weight wonderfully. Was able to ride long distances before the summer was over, and since then he has rid himself of his cough; has lived in Leadville, an elevation of over 10,000 feet; went East for several months one summer and autumn, and seems to be in a fair way of living to a good old age.

It may, however, be argued that this is an unusual case. While I think that many like it could be cited, perhaps the following will come nearer being the typical one:

CASE IV. Was one of the few survivors of the "City of Columbus," that went down in Vineyard Sound on her way from Boston to Savannah in the winter of 1884. He, at that time, contracted a cold which clung to him, until in March of the same year he had a hæmorrhage. This was followed by night sweats, loss of weight and strength, and dyspnoea. In August he had a second and profuse hæmorrhage. I examined him August 24th, 1884, and found that his father had died of consumption at the age of thirty-two years. In other respects his family history was good. At the time of examination he suffered from shortness of breath, cough, especially in the morning, a considerable thick, yellowish expectoration; and on physical examination, I found an expansion of two and one-quarter inches, dullness at the right apex, and a few fine, moist râles at the same apex. I have now lost track of this patient, but for many months he gained in every particular, and had had no recurrence of the hæmorrhage.

There are cases that are not so far advanced as those cited, where speedy and great good is received

by coming to our climate. By way of example, let me cite the following:

CASE V. A young man about entering college. Age, twenty-one; comes of a long-lived race. In June, 1886, noticed an invariable morning cough, which grew worse in July. Expectoration greenish-yellow and tenacious. Loss of strength, but no night sweats.

Physical examination made September 18th, 1886. Expansion, three inches; percussion slightly high at the right apex; auscultation, fine, moist râles developed with cough, and deep inspiration over supra-clavicular and supra-spinous regions on the right. Pulse, 40, temperature 99.4°.

This young man has so far recovered that he has, within a few weeks, taken out a life-policy in one of the best insurance companies in the country, the examiners for which are members of this Society.

When the disease becomes more advanced, and larger areas of lung tissue than the mere apex became involved, even then, in a good number of cases, the results are excellent from coming to Colorado. A most marked instance is the following:

CASE VI. A young man, aged twenty years, living on the New England coast, and working in an office, contracted a cold in the early months of the winter of 1881-82, which hung on him until he came to Colorado in March, 1882.

At that time I found family history good. Had lost nineteen pounds in weight; lost strength. Was having constant cough; expectoration muco-purulent and abundant. Marked shortness of breath; hectic. Physical Examination: Percussion note high over the right upper lobe, and abundant fine, moist râles over the same.

His digestion was excellent, and his recuperative powers great. Of all the patients that I have had under my care, I have never had one so rational, nor one who took such good care of himself as he. From the minute that he put foot in Colorado, he began to improve. Life in the open air, sleeping in a tent, and work on a ranche in the San Luis Park made a broad-chested, muscular, powerful man of him, and to-day he is living, in perfect health, in one of the most trying climates on the globe, that of the eastern coast of Massachusetts.

There are cases, where the development of phthisis may well be feared from the fact that a pneumonic product is slow in being resolved, or a pleuritic affection, with adhesions, may produce an irritation which will result in fibroid phthisis. Such cases have been found to do admirably in our climate.

The following illustrations will serve as types.

CASE VII. A young medical student, in Boston, of excellent family history, but with a personal history of two previous attacks of pneumonia, was put to bed early in April, 1880, with a rapid pulse, a temperature of 104.5°, pain on the left side in the region of the nipple, cough, and expectoration which never became "rusty"; also night sweats were present. There was found to be a limited area of dullness near the left nipple, and râles. The diagnosis was made of an acute catarrhal pneumonia. The trouble proved to be asthenic. After four weeks he was sent into the country, then into the hills of Maine, and afterwards into the White Mountains. Although he gained in strength so that he played tennis, climbed mountains, and did all sorts of foolish things, yet the consolida-

tion remained and was accompanied by a constant cough and abundant muco-purulent expectoration. In October of that year he was sent to Colorado, being adjudged an "unfavorable case." For two years he practised his profession, in a desultory way, and lived constantly in the open air out on the frontier. In the fall of 1882, he saw the late Dr. Austin Flint, who examined him then for the first time, and pronounced one lung as good as the other, and to-day, or rather this evening, he is the reader of this paper.

CASE VIII will illustrate the pleuritic condition of which I spoke.

Mr. X., of the Massachusetts coast, aged twenty-eight years and with a family history of having lost a sister, a maternal uncle and the maternal grandfather of consumption, was attacked in September, 1884, with pleurisy of the left side, which confined him to the house for three or four weeks. He came to Colorado in November, 1884, and was having night sweats. He had lost flesh and strength, but he had never had a hemorrhage.

I examined him in March, 1886, and found that he was coughing a little, was raising a slight amount of thick, tenacious sputum, and that, on a physical examination, there was a slight area of dulness with some fine rales at the base of the left lung, in the axillary line. The signs were aggravated in his case by an irregular life. He has since then done admirably and went East for the summer. I have not seen him since.

But, gentlemen, I will not weary you by the citation of cases that serve only as familiar types to you all. There is probably not a practitioner here but that could match any one of these that I have presented by many others from his own experience. Before, however, proceeding to some general remarks on the treatment of the disease, I wish to record a case of growing recovery from a chronic laryngitis, consequent upon a phthisical condition.

CASE IX. Bostonian, thirty-five years of age, cor-netter. Noticed tickling in his throat and a dry hacking cough in August, 1884, which continued until January, 1885, when he had a general breaking-down, but has never had a hemorrhage. In February, 1885, he went to Minneapolis. He spent the summer months in the pine-woods of Wisconsin and came to Colorado in November of 1885. He used, he says, to expectorate a teacupful of muco-purulent sputa every night, and he had fallen in weight from one hundred and thirty-five to one hundred and twenty-five pounds.

About December 1st, 1885, he had lost his voice. He could only speak in a whisper that could be heard only a few feet, when about September 1st, of this year, under the stimulus of a life out-of-doors day and night, and local treatment, to tone up, if possible, the dilated bloodvessels of the parts, he recovered tone in his voice and to-day, absolutely free from cough and expectoration, in possession of strength so that he can do a hard day's work, and with a voice somewhat husky, but strong enough, as he says, to be heard half a mile, he is anxious to go back to Massachusetts and spread the good tidings of the efficacy of the dry, bracing, Colorado air in the cure of many phthisical conditions.

It is not to be contended that our climate is the best and cure all. We can number too many cases that have come in the advanced stages indicated by emaciation and cavity, and have speedily given up their lives

here, to feel that it is sanative in all phthisical conditions. To be sure we can cite cases that have, even in these stages, prolonged life for months and years; and yet, most of us will probably agree in the assertion that this rare, elevated air is contra-indicated in the so-called third stage of phthisis.

Moreover, in every case, be the trouble great or be it little, the advice and direction of those experienced in the treatment of the disease are aids.

We know, perfectly well, that some cases will do well in one portion of our State and others in another. We know that it is essential to give directions in regard to all hygienic measures, to specify in regard to the minutest details of life, even to make inquiry into the methods of clothing, the diet, amount and manner of exercise, the sleeping accommodations, the hours of sleep, etc.

We know that it is a mistake for persons to come to Colorado and shut themselves up in an office or with indoor work. We can each of us recount the sacrifice of life that has been made, in case after case, by an undue haste to be at the work of life again.

If there is any one thing that we should harp upon to our patients, it is caution. Caution not to exercise too much, especially at the first. Caution not to sleep in an illy-ventilated room, nor in a draught. Caution not to catch cold. Caution not to keep late hours, not to smoke too much or perhaps not at all, and caution not to do this thing or that thing. An exceeding watchfulness is the price of a recovery, and if we expect to obtain good results we must be specific in our details to a degree that it is often wearisome. As I look back upon my cases, I can recall a fatal termination due in all probability to a fishing excursion; another due to a desire to earn a living in a counting-house; another to undue exercise in climbing hills while surveying; another to taxing the strength too greatly by lifting, etc. Even in those cases in which a recovery eventually occurs there are apt to be some set-backs. An imprudence in playing tennis, or riding horse back, or in dancing, or taking part in theatricals, not to speak of the more earnest walks of life, not infrequently causes dangerous and trying exacerbations of the disease.

It sometimes happens that a mental despondency will interfere in cases that, so far as the symptoms, history and physical signs are concerned, warrant a favorable prognosis. I recall one marked case where a young man, having some consolidation at the right apex, which extended down into the upper lobe on the right, was so depressed by the death of his wife, which happened while he was *en route*, and knowledge of which was kept from him for some time, that he sank steadily although his physical condition warranted at least a guarded prognosis.

The one thing that I insist upon in the cases just come to our climate, is rest. So much do I harp on it, that I often tire of the repetition. I urge comparative inactivity for some time after coming here. How often do I tell such patients to exercise short of anything like fatigue, to walk but moderately, and to spend most of the hours of sunshine in some corner on a veranda, where they will be sheltered from the wind and be basking in the sun. The altitude of one mile above sea-level gives the diseased and unaccustomed lungs all that they can properly attend to, without putting upon them the additional work caused by over-exercise.

As regards medication I have but little to say. The treatment is *pro re nata*, so far as drugs are concerned. My rule is to give absolutely none, unless there are very decided and positive contra-indications. My belief is that rules that hold at sea-level with reference to alcoholics do not appertain *in toto* at this elevation. It is often a nice point to determine whether to continue the daily doses recommended by eastern advisers.

Where the stomach will digest it, I find cod-liver oil, either pure, or in an emulsion, of great advantage, and yet even this should be exhibited with caution. In perhaps the larger proportion of cases my advice is in regard to general regimen rather than in regard to the administration of drugs.

Gentlemen, the large percentage of our population that is composed of the invalid class who have found a recovery in this climate and have pitched their tents here, is the most potent argument in favor of its efficacy. We know that we are blest with the great climatic conditions of a dry atmosphere, a rare and pure atmosphere, an amount of sunshine that is unrivalled and high sun-temperatures.

We know that these factors, the absence of endemic phthisis, and a dry soil are strong arguments in favor of this being a curative climate. We know, further, that an out-of-door life is possible during more hours of the day, and during more days in the year, in this climate, than in almost any other on the face of this earth; but the most conclusive testimony to be found, as regards the curative influence of a life in Colorado, in cases of phthisis pulmonalis, is in the thousands upon thousands of people who can, in their own persons, bear testimony to the fact.

At least one hundred thousand people in these our United States die every year at the hands of this fell disease.

Does not our duty, not to ourselves but this large invalid class, compel us to proclaim far and wide, the efficacy of the cure to be obtained in the Rocky Mountain region; to point out the cases that can reasonably expect a benefit; to implore the eastern doctors not to take us as a *dernier resort*, and, finally, to devote our best energies to assisting nature and climate when once the invalid is in our midst?

"It is an absurd supposition that any climate exerts a specific influence in arresting phthisis," writes Dr. Flint, in his article in "Pepper's System of Medicine." Whether this statement be true or not, we know, by proof positive, that Colorado climate, assisted by wise direction, and cautious living, has been curative in cases without number that would probably have proved fatal under their old surroundings and conditions, and we can but argue from this, that what has been done can be done again, and that like conditions and like causes will produce like results in the future as they have in the past.<sup>1</sup>

—The Board of Health of Syracuse, N. Y., has condemned the High School building, on account of defective plumbing. It was built in 1869, at the cost of \$100,000.

<sup>1</sup> Exception was taken in the discussion, to the remark that "most of us will probably agree in the assertion that this rare, elevated air is contra-indicated in the so-called third stage of phthisis, and it was claimed that the amount of lung-tissue involved was more of a contra-indication than the stage of the disease. There is truth in this view; and what is perhaps intended by those maintaining these views is, that Colorado is not the place for "forlorn hopes."

## A REDUCING SUBSTANCE IN HUMAN URINE RESEMBLING GLUCOSE.<sup>1</sup>

BY T. DARTON BRINE, M.D., OF BALTIMORE, MD.

AFTER completing the analysis already reported to this honorable body, I resumed the investigation of the urine on the 20th of last month, at the Johns Hopkins University Chemical Laboratory, and I take this opportunity of expressing my indebtedness to Professor Remsen for his kindness in offering me the facilities of the laboratory, and to Dr. C. Piggott, of the chemical department, for very efficient assistance courteously rendered.

As the behavior of this substance so closely resembled that of the compound reported by Dr. Walter Smith,<sup>2</sup> and believed by him to be proto-catechuic acid, the first step was to apply his method to the urine in question.

For that purpose, about 240 cc. of the urine were treated with an excess of a solution of neutral lead acetate and filtered. The filtrate gave the same brown and green reactions, with sodic hydrate and ferric chloride, respectively, that the urine did. It was then treated with an excess of a solution of basic lead acetate (Goulard's extract), and again filtered. This second filtrate did not respond to sodic hydrate and ferric chloride. The basic-lead acetate precipitate was then washed, suspended in water, and a stream of sulphuretted hydrogen passed through the mixture. The resulting black mixture was again filtered, and the clear, colorless filtrate responded to sodic hydrate and ferric chloride, as had the original urine.

This filtrate was then distilled in an atmosphere of carbon dioxide, and the distillate tested as before for the brown and green reactions, which were not obtained. The dark-brown, crystalline residue, however, dissolved in water, distinctly responded to sodic hydrate and ferric chloride, as had the urine, and, consequently, according to Dr. Smith, should have been proto-catechuic acid.

The quantity thus obtained was very small — too much so for an elementary analysis — so we determined to compare its solution with a dilute solution of pure proto-catechuic acid. On doing so, a marked difference was at once apparent. Our product in very dilute solution gave, with sodic hydrate, a faint reddish-brown color, rapidly becoming a deep brown on agitation in the air (that is, by oxidation), while proto-catechuic acid gave a very faint brownish color, only slightly deepened on agitation. With ferric chloride, our substance gave a distinct, but transient bluish-green, the liquid then becoming turbid, and of a dirty, greenish-white color. Upon the addition of sodic hydrate, the mixture becomes at first a bright bluish-green, then red, and on agitation, a brownish-red. Indeed, the readiness with which this substance took on a brown color in the presence of an alkaline solution (sodic and potassic hydrates and carbonates) was one of its most striking peculiarities. In the reaction with ferric chloride and sodic hydrate combined, the ferric chloride had to be added in very small quantity, lest on the addition of the sodic hydrate, ferric hydrate should be precipitated in quantity sufficient to obscure the result.

Proto-catechuic acid gave a bright, distinct, permanent bluish-green with ferric chloride, turned to a bright,

<sup>1</sup> Read before the Baltimore Academy of Medicine, January 18th, 1887. Continued from page 622, Vol. CXV.

<sup>2</sup> Dublin Journal of Medical Science, Vol. xxiii., p. 483, et. seq.

permanent, garnet-red upon the addition of sodic hydrate. With Fehling's solution, both gave a very similar reaction, namely, a slow and imperfect reduction of cuprous oxide, with a dark, greenish-brown discoloration of the supernatant fluid in the case of our substance, and a somewhat lighter color in the case of proto-catechuic acid. Clearly, therefore, our substance was not proto-catechuic acid, although very closely resembling it.

Just at this time, my attention having been called to Dr. Kirk's article in the *British Medical Journal* for November 27th, last, and the similarity of our substance to his "urhodinic acid" being so apparent, we determined to apply his method to the urine in question. Therefore, 750 cc. of the urine were evaporated down to about 60 cc., washed with several volumes of ether, separated from it and acidulated with hydrochloric acid (in the proportion of one-half per cent. anhydrous acid to the original amount of urine). The acidulated mixture was then shaken up with ether, and the yellow, ethereal extract separated from the urine. Both this extract and the ethereal washings gave the sodic hydrate and ferric chloride reactions, and on evaporation of the latter, and drying over sulphuric acid, we obtained large, needle-shaped, branching crystals (which I here show), mixed with resinous and coloring matters. Kirk's "serixanthine" we did not obtain. A small portion of the acid ethereal extract, evaporated spontaneously on a watch-glass, gave the beautiful crystals I exhibited at the last meeting of the Academy.

As we were not satisfied as to the purity of the crystals thus obtained, we subjected the bulk of this ethereal extract to Smith's method, and the resulting product was a reddish, crystalline body, which, on drying above sulphuric acid, gave off strong fumes of chlorine, showing that the hydrochloric acid had decomposed the original substance.

We determined, therefore, to purify by another method, and to use a very much larger quantity of urine. While awaiting this supply from the agent, I saw Dr. Marshall's publication in the *Philadelphia Medical News* for January 8th, 1887, and thus first became aware of his methods and results. As he has devised an apparently good method for the separation of this substance, and has isolated it in a purer state than we have as yet done, and intends to make a thorough investigation of it, we deem it in courtesy due to him to hold back any further publication, at least for the present, and give him the opportunity of completing his work, and of finding out exactly what this most interesting compound is. The crystals exhibited two weeks ago by me, and those which I now show under the microscope (obtained from the neutral lead-acetate filtrate prepared for the polarizer), are, I think, identical with those found by Drs. Marshall and Kirk. They are, as you have seen, needle-shaped prisms arranged in groups, radiating from a centre, like the spokes of a wheel. I believe, also, that this substance is identical with Smith's "proto-catechuic acid," Ebstein's and Müller's "pyrocatechol," and possibly, with Baedeker's "alkapton," although the latter was said to contain nitrogen, which Dr. Marshall says this substance does not.

At present my work stands thus: Quite independently of Dr. Marshall, and in ignorance of his methods and results, I have the honor of reporting to this Academy a crystalline-reducing substance found in

human urine, capable of being confounded with glucose, very similar to proto-catechuic acid, and apparently identical with Kirk's "urhodinic acid." That this compound results, as Kirk suggests, from "a profound perversion or arrest of the metabolic processes" is possible, and, inasmuch as the applicant had eaten nothing known to give rise to a reducing substance, perhaps probable; but in this, as in the majority of other similar cases, there was no apparent disease, and we are, consequently, compelled at present to state that *this substance has no known pathological signification*. Of course, a knowledge of its ultimate constitution may throw further light on this subject.

In conclusion, without occupying your time with an account of the origin and reactions of other reducing agents (principally derived from ingesta), a number of which have been found in human urine, *I will simply emphasize the fact that their occurrence, as well as the discovery of this new compound (if new compound it be) render it necessary to employ other tests to corroborate the positive evidence of Moore's and Fehling's tests for glucose in human urine.*

## REPORT ON PROGRESS IN GYNECOLOGY.

BY F. H. DAVENPORT, M.D.,  
Assistant in Gynecology, Harv. Med. School.

### THE INITIAL STAGES OF FIBROIDS.

OLSHAUSEN,<sup>1</sup> in a paper read before the first meeting of the German Gynecological Society, held in Munich, gives what he considers to be the initial stages, clinically, of fibroids. The evidences of the beginning of a fibroid which appear before the tumor can be at all recognized, consist in a series of subjective symptoms, especially pains which grow worse during menstruation, but do not cease in the intervals, a feeling of great pressure, irregularities in the menstrual flow, in which it comes too early, and lasts too long. There are abnormal sensations of the bladder as well. The uterus is found to be sensitive to pressure, especially on bimanual examination. These symptoms last a varying length of time from a few months to several years.

After a time the uterus is found to be enlarged, and again after a lapse of time the presence of a fibroid is recognized by its irregular form. From this time the pains cease, and the menstrual flow diminishes in amount, or ceases altogether.

This chain of circumstances can be explained in two ways: either the very earliest stages of the growth of a fibroid give rise to symptoms which disappear with its increased size, or the irritation of the uterus is the primary cause which leads to the development of the tumor. Olshausen considers the second explanation the more probable. Women in whom these prodromal symptoms have lasted for years, are usually sterile during that time, and this symptom is a consequence of a congested state of the uterus which sooner or later leads either to the development of a fibroid or to areolar hyperplasia. In conclusion, Olshausen expressly states that he does not mean to say that this explains the development of fibroids in all cases, but that in numerous cases he has observed this sequence of events.

In the discussion Winckel said it was his opinion

<sup>1</sup> Wiener Med. Presse, No. 31, 1886.

that when such initial symptoms appeared, already small fibroids existed which could not be demonstrated, and that the pain was caused by the stretching of the walls of the uterus by these small growths. The difficulties cease when they have grown out of the wall of the uterus.

PREPONDERANCE OF MALES FOLLOWING CONCEPTION AT THE TIME OF THE POST-MENSTRUAL ANÆMIA.

The solution of the question when and why the determination to the male or female sex takes place has always excited interest. These inquiries have not yet found satisfactory answers, partly because they have rested on a purely theoretical basis, and partly because in the investigation of one factor, the influence of others has not been considered. Therefore even a small contribution to the settlement of the question is welcome, which excites to further investigation, and seems a step in advance.

C. Fürst<sup>2</sup> opens his article with a short sketch of the generally prevailing opinions as to the time and causes of the determination of sex. In accordance with these it is probable, or at any rate not disproved, that the determination can take place as well before, as during, and even a certain time after the impregnation. As regards the cause, there must be supposed a coöperation of different causes at different times. Among the causes affecting both parties, the influence of better or poorer nutrition has been proved by numerous examples (relatively more males when the nutrition is poorer). If one supposes that such an influence can also be exerted through the nutrition of the already impregnated ovum, then it must, in accord with the very early predisposition to the formation of the genital organs, be the greatest soon after conception.

Fürst came upon the idea, that in cases of conception immediately after the cessation of the menstrual flow there would on account of the poorer nutrition of the impregnated ovum be a preponderance of boys. With this in view he selected from the large material of the Vienna clinic of C. Braun, those cases in which the day of conception was known, and separated the cases of which he was sure, (one hundred and thirty-three), from the less trustworthy (sixty). A study of these cases gave the rather noticeable result of a marked preponderance of boys for the cases in which conception occurred within the first four or five days after the cessation of the menses, thirty-seven boys to twelve girls, and a preponderance of girls for the rest of the interval, seventy-nine girls to sixty-five boys. In sixty-seven cases where the accuracy of the data admitted of no question, the proportion was still more marked, fourteen boys to two girls, and twenty-nine girls to twenty-two boys.

Even if this number of cases is too limited to enable us to lay down the rule that conception at the time of the post-menstrual anæmia is followed by a large preponderance of boys, it can at least lead to farther investigation.

A CONTRIBUTION TO THE DETERMINATION OF SEX DERIVED FROM OBSERVATIONS MADE ON AN AFRICAN TRIBE.

Dr. R. W. Felkin<sup>3</sup> gives the results of some observations made on the Waganda tribe, which are interesting for their bearing on the question of the deter-

mination of sex. The female population in Uganda is largely in excess of the male, the proportion being about three and a half to one. This preponderance is due to three causes, first, more female births than male; second, as the Waganda are constantly at war, and their battles are very destructive, the death-rate among the males is greater than among the females; third, the custom after a victory of putting to death the men, but sparing the women and children.

With regard to the first point, the writer made inquiries into the history of three hundred pure Waganda women, and found that two hundred and ninety-one had children, and of the first births, one hundred and forty-four were males, and one hundred and forty-seven were females. Of five hundred imported women, four hundred and eighty-two had children, and of the first births only seventy-nine were males, and no less than four hundred and three were females.

The theory which Felkin advances to explain these facts is that "the temporarily superior parent produces the opposite sex." The fact that the imported women at their first births are liable to produce females is accounted for in this way: When in the course of the wars a town is captured, the soldiers are allowed the utmost license, and the nights are spent in excess of every kind. The men, flushed with victory, and exhilarated with wine, are temporarily superior to the women, frightened and sorrowful at loss of home and friends and freedom, and exhausted by long marches. Later, after the captives have been distributed as views and have settled in their new homes, the proportion is more nearly that of the pure Waganda woman, namely, one hundred males to one hundred and thirty-seven females.

Incidentally, Felkin noticed the very small proportion of sterile women, both among the pure Waganda, and among the imported women. The former showed only three per cent. and the latter three and six-tenths per cent., as against about fifteen per cent in England.

RELATION BETWEEN NEUROSES OF THE STOMACH AND UTERINE AFFECTIONS.

Dr. Gustav Braun<sup>4</sup> refers at the beginning of this article to the frequency with which certain organs when diseased exercise a very marked influence on other organs remotely situated, while with regard to others, for example, the lungs, no such observations are made. The stomach and female genital organs belong to the first category.

We know that changes in form and position of the uterus may cause gastric disturbances, and there are other uterine affections which may have similar effects. Dr. Braun gives the histories of three interesting cases which illustrate this connection.

CASE I. A woman, twenty-five years old, married at seventeen, had a child one year later. Several years after she had an attack of angina tonsillaris, from which time there appeared disturbances of digestion, beginning with loss of appetite, and ending with constant vomiting. Various forms of treatment, including a sojourn at Carlsbad, relieved her only temporarily. Finally, an examination of the condition of the genital organs by Dr. Braun showed a normal condition of affairs except excessive mobility of the uterus. It could be easily pushed by the examining finger into a position of ante or retro-version or even latero-version. On the supposition that this might be a factor

<sup>2</sup> Archiv. für Gynäkologie, xxviii-1.

<sup>3</sup> Ed. Med. Journal, September, 1886.

<sup>4</sup> Wien. Med. Woch. 1886, Nos. 41 and 42.

in the case he fitted a Hodge-Braun pessary, from which time the vomiting ceased, and the patient fully recovered her health.

CASE II. This patient, thirty years old, married, had one child two years old. The birth was normal, but the child large, and the head very hard. Gastric disturbances showed themselves very soon, followed by vomiting, at first only when she was on her feet for a length of time, but later when sitting or lying. After a good deal of unavailing treatment, a vaginal examination revealed a deeply lacerated cervix, with a cicatrix in the right angle of the laceration. Pressure with the examining finger provoked retching and vomiting. The operation for the repair of the cervix was followed by immediate and lasting relief.

This patient, twenty-eight years old, had given birth to a child two years before. Soon after she experienced a feeling of weight in the pelvis, but paid no special heed to it until some months later, when on lifting her child she felt sudden pain in the lower abdomen. From that time vomiting followed as often and as long as she was on her feet, but when lying down she was comfortable. Pessaries were of no use, as the small sizes did not prevent the sinking of the uterus, and the larger ones caused too much pain. Examination showed a large uterus over five inches in length with the cervix very much hypertrophied, which pressed against the intact perineum when she stood up. Rest in bed, and hot-water injections failed to reduce the size of the uterus, therefore the amputation of the vaginal portion was performed, with the result of reducing the size of the womb to a little over three inches, and a complete cessation of all troublesome symptoms.

#### POLYMASTIA WITH TEN NIPPLES.

DR. F. S. NEUGERAUER, Jun.,<sup>2</sup> reported the following case before the meeting of German Naturalists and Physicians held in Berlin in September, 1886.

X. X., twenty-three years, was confined for the second time at the Lying-in Hospital in Warsaw. She had nursed her first child born seven years before, and noticed nothing peculiar about the breasts except some brown spots on the chest which she regarded as mother-marks. After the second confinement she noticed even on the second day, a disagreeable moisture and dripping under the arms. Examination showed two nipples without areolae in the axillae, and in addition two more on each side above and to the outside of the normal ones. When the breasts were raised two additional ones were discovered underneath them, making ten in all. When the child nursed, milk trickled spontaneously out of the axillary nipples, but could only be pressed out of the other six.

The author asks the question, whether we have to deal with several nipples on a single gland, or with several distinct mammary glands, each with its own nipple, and inclined to the latter view. He then gives the various theories which have been held as to the cause of these accessory breasts. Ahlfeld explains them by supposing that by the pressure of the amnion, portions of the formative layer are cut off and adhering to the amnion are transplanted to the surface of the body.

Others explain their existence as the result of the aberration of milk ducts. Lichtenstern and many others regard this anomaly as a manifestation of

atavismus. The author favors the latter view. Champney is referred to, who has written a paper advancing the theory that in certain puerperal women the sebaceous glands become changed into, and take on the function of mammary glands.

#### MOLLITIES UTERI.

Under this name Dr. Scudder<sup>3</sup> describes an extraordinary softness which sometimes affects the uterus. Dividing the organ into three segments, the cervix, the middle segment, by which he means "the supravaginal cervix with that portion of the uterus containing the internal os;" and the body or upper third, he finds that this abnormal softening may affect one portion alone, or the organ as a whole.

The softening incident to pregnancy, especially of the cervix, is familiar to all. This, according to Scudder, may successively invade the middle segment and the body, though much less frequently than the body alone. This same condition may be found in women who are not pregnant, both nulliparæ and multiparæ. The diagnosis is easily made in the case of the middle segment, by the mobility of the body without affecting the axis of the cervix, in the case of the body, by the ease with which it is molded. The author has found mollities of the middle segment most common in nulliparous women. He considers it due to "malnutrition of the body as such, and of the uterus in particular, such malnutrition of the uterus being aided by congestions or inflammations of the uterus, ovaries, or surrounded tissues and organs, or by pregnancy, neoplasms, etc."

When the middle segment is affected, the symptoms are at first general in character, with some indefinite pelvic distress. Later come menstrual disorders, dysmenorrhæa, menorrhagia and sometimes metrorrhagia and later trouble with micturition, and ovarian dysmenorrhæa. Antelexion or retroflexion followed, the direction seeming to be determined by the position of the uterine axis.

Treatment is constitutional and local. Good hygienic surroundings, tonics, and regulation of the bowels, are essential as general measures. Local treatment would include the reduction of the misplacement, and the adjustment of pessaries and uterine massage.

#### ON SOME OF THE PHYSIOLOGICAL AND THERAPEUTICAL EFFECTS OF WATER AT DIFFERENT TEMPERATURES WITH SPECIAL REFERENCE TO OBSTETRICAL AND GYNECOLOGICAL PRACTICE.

MR. R. MILNE MURRAY<sup>4</sup> has written a very interesting article on this subject which places on a scientific basis the use of hot and cold water in the treatment of inflammations and hemorrhages.

For a very long time cold applications have been used in the checking of hemorrhages from the uterus, and in recent years water at relatively high temperatures has been recommended as being more efficacious. The evidence thus far has been based almost entirely on clinical experience, and the effect is supposed to be a two-fold one, by causing a rigid tonus of the uterus, and more or less persistent spasm of the muscular tissue of the bloodvessels.

Emmet, whose name is prominently associated with the advocacy of the use of hot water, says the imme-

<sup>2</sup> Centralblatt für Gynäkologie, 1886, No. 45.

<sup>3</sup> New York Medical Journal, December 18th, 1886.

<sup>4</sup> Ed. Med. Journal, Aug. and Sept., 1886.

diate effect is to cause relaxation of the bloodvessels, but if the application be prolonged, reaction ensues, and contraction takes place. To determine the truth of this theory, the author conducted a series of experiments with hot, warm and cold water on the muscular tissue of the uterus, as well as non-striated muscle generally.

The method of experiment, and the various tables giving the results, are interestingly set forth in the article to which the reader is referred for details. The following table will show the more important facts settled by the investigations.

## GENERAL VIEW OF THE ACTION OF COLD AND HOT WATER.

COLD, 32° to 60°.	HOT, 100° to 120°.
(1) Marked latent period.	(1) Latent period absent or very short.
(2) Contraction develops slowly.	(2) Contraction develops rapidly.
(3) Relaxation about three times duration of contraction.	(3) Relaxation about twelve to twenty, four times duration of contraction.
(4) Successive applications can only induce contraction after period of rest. These contractions become greatly diminished in efficiency, the period of relaxation and maximal contraction being greatly reduced. Loss in four experiments four-fifths of initial efficiency.	(4) Successive application followed at once by response. Efficiency of contraction greatly increased. The period of relaxation, and maximal contraction are much increased. Gain in four experiments four times initial efficiency.
(5) Continuous application produces rapid exhaustion, muscle becoming completely relaxed and failing to respond.	(5) Continuous application induces a high degree of contraction, broken up by secondary waves of partial relaxation and contraction.

The following deductions are drawn from the experiments:

1. Water at temperatures of 120° F., and ten degrees lower constricts bloodvessels, and arrests hemorrhage from small arteries.

2. Water at temperatures of 100° F., and thirty or forty degrees under dilates small vessels, and promotes hemorrhage.

3. Water at temperatures of 50° F., and twenty degrees under, checks hemorrhage by constricting bloodvessels, but this only temporarily.

4. After water at the above temperatures has lost its styptic power, water at high temperatures is still effective.

The therapeutic significance of the experiments may be epitomized as follows:

I. It is evident that in water at 120° F., we have an agent of immense power in controlling the local circulation in an organ. The calibre of the smaller bloodvessels becoming narrowed, the abnormal blood-supply will to a large extent be cut off, and the resulting phenomena of inflammation checked.

II. Hot water is efficacious in promoting uterine action, and is hence useful both in cases in which the contents of the uterus have not yet been expelled, and those in which they have, but where the risk of hemorrhage is imminent from atony of the uterus. In post-partum hemorrhage it is especially indicated on the following grounds: (1) The rapidity of action; (2) The duration of the tonus produced; (3) The absence of vascular reaction; (4) The absence of exhaustion of the muscular fibre; and (5) Absence of violent shock to the exhausted system.

— It is reported that Dujardin-Beaumetz is using antifebrine extensively in the treatment of epilepsy, and that he considers it one of the most powerful moderators of the spinal centres.

## Therapeutical Memorandum.

## THE TREATMENT OF SCIATICA. A SUCCESSFUL TREATMENT OF ACNE.

BY JOHN T. METCALFE, M.D., NEW YORK.

For many years past I have been in the habit of prescribing a method of treatment for this so often unyielding neuralgia of the sciatica, which is so simple and at the same time has so satisfactorily answered my purpose that I should be glad to have some of the many readers of the JOURNAL give the benefit of their clinical experience in determining the true value of what was accidentally made known to me in the way of a remedy for the "obprobrious" ailment in question.

I need not premise that my remarks are only applicable to that form of sciatica in which we either refer the cause to some diathetic influence, especially the gouty or rheumatic, or to those more obscure in their nature to which we are unable to give a name. Cases due to growth in the nerve or to pressure on its trunk or roots must be relegated to the surgeon's consideration when not of syphilitic origin. In that event any one would naturally be led to adopt specific medication, alone or in conjunction with the treatment of which I wish to make especial mention.

Nearly thirty years ago a prominent New York shipping merchant, with well-marked gouty diathesis, applied to me for relief from left sciatica. He was nearly sixty years old and had led a remarkably prudent and temperate life, his only resort to his medical adviser had been for gout and rheumatism, as his somewhat frequent attacks, for the ten or fifteen previous years had been called.

The suffering was unusually great and notwithstanding rare power of enduring pain soon became unbearable. I will not detail how I had excluded all possible cause of surgical nature; nor how I had used almost every known means to relieve the pain and to procure sleep by internal administration of so-called remedies for his constitutional ailment. I knew that opium was unfriendly to him, but after failure of everything else, I used the sulphate of morphia in doses of one-sixth of a grain subcutaneously. Much relief and more sleep were the immediate results of the anodyne; but the papaverous poisoning and prostration were so alarming that I could not bring myself to repeat the medicine. After a week or ten days, the intense pain subsided, mainly as was then thought, from the constant application of rubber bags and bladders, filled with water as hot as the patient could bear it. Blisters and the actual canterly had not given the slightest relief, except on one occasion, when sprinkling the denuded true skin with one-third of a grain of acetate of morphia acted as unfortunately as the subcutaneous use of the sulphate had done.

As the winter was severe, I advised my patient to pass two months on the island of Cuba, giving him all manner of diathetic and regimenal directions; and strongly advising him to eschew all "doctor's stuff." At the end of the time mentioned, he returned, perfectly well of his torturing ailment. As was natural I complacently and *vis* voce congratulated myself on my clever prescription. "Not so fast," said he, "my dear doctor, I almost died with the infernal thing after reaching my friend's plantation. He sent for an old

French doctor who attended his negroes and family and from him I received a bottle of medicine, which without containing opium in any form, gave me very speedy relief. I know it was not a mere coincidence; for I have tried it twice, since he prescribed it, with exactly the same result. Here is the prescription. It was composed of equal parts of tincture of aconite root, seeds of colchicum and belladonna.\* The dose was six drops, every six hours, until relief came.

During my old friend's life, his new remedy never failed to give him relief. For many years I continued to prescribe it in sciatica of the kind named; and although I have had some unsuccessful cases, I have come to believe that, as an internal remedy it is worth all others put together of which I have knowledge.

Some months ago I got Mr. Fraser to make tablet-triturates, each of which contain three drops of the following mixture;

Tincture of Aconite Root	} Equal parts by volume.
" Seeds of Colchicum	
" Belladonna	
" Actea Racemosa	

Of these, I give one, every four, six or eight hours, according to the necessity of the case. It takes not long to impress the system, especially with the aconite, nor does it as a rule require more than three days to make the patient so firmly believe in its efficacy that he has no need of persuasion to ensure its continuance until complete relief.

To many physicians I have given the formula just mentioned. In neuralgia of the axillary and brachial nerves, it has proved quite as efficacious as in that of the great crural branch. As yet, I have not seen one brother Esculap who has not thanked me for having led him to try the remedy.

#### A SUCCESSFUL TREATMENT OF ACNE.

Judging from my own experience, I do not think the case with which acne, whether of the sebaceous, pustular or papulous form is curable, by external means, is generally very gratifying to patient and practitioner. For the last seven years I have not failed in a single instance to perfectly cure the ten or twelve cases which have come under my observation.

Some have been of long standing and of great severity. The last very bad one was facial and so disfigured the doctor to whom the face belonged that he only went into society with the greatest reluctance. When I told him that I felt sure he could be greatly benefited and that I thought he could be cured, he said he had given up all hope of amendment and had made up his mind to practice philosophy in accepting the inevitable.

I met my confrère a week ago and actually failed to recognize him at first, so entirely was his face free from the disfiguring acne.

I was led to employ chrysophanic acid in these cases, by reason of learning what it had effected when used as an ointment in treating chronic psoriasis. My habit is to begin with an ointment made of three grains of the acid to an ounce of vaseline. The face is well washed with soap and dried, at night. Before going to bed, the parts in which acne exists are well rubbed with the ointment and this is repeated, every night, until a sharp dermatitis with scarlet skin is produced. Inunction then ceases, until disappearance of the artificial inflammation of the skin, when a repetition of the ointment is made, under conditions above stated.

In all delicate skins, the three grains strength is sufficient. In others it may be necessary to increase the percentage of chrysophanic acid until sufficient dermatitic power is produced. Almost never have I been obliged to go beyond five grains to the ounce. It is necessary to caution patients that the bed-clothes and garments be not stained by the ointment, and to have them wash the fingers well that the eyes may not be made to suffer.

## Reports of Societies.

### PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

#### TWENTY-SIXTH ANNUAL MEETING.

JANUARY 8, 1887, the President, DR. A. D. SINCLAIR, in the chair.

DR. WM. L. RICHARDSON read a paper on

#### THE USE OF ANTISEPTICS IN OBSTETRIC PRACTICE.<sup>1</sup>

DR. CURTIS said he had previously heard Professor Richardson's lectures on this subject and had been very much interested in his personal observations of antiseptic obstetrics at the Boston Lying-in Hospital. The contrast between the clinical charts of this hospital in former years and those of the present time was very striking. A by no means unimportant fact coincident with the introduction of the present antiseptic treatment was the absence of ophthalmia neonatorum. He believed that the same system of rigid antisepticism should be introduced into private practice.

DR. BLAKE said that in hospitals the septic influences were such that strict antiseptic precautions were necessary, and the system adopted by the reader was admirable; but he was not prepared to believe that the same precautions were essential in private practice. Many physicians of large experience in the past had lost no cases from puerperal fever and had never taken especial antiseptic precautions. The conditions and surroundings of patients are the same now as then, whence, therefore, the necessity of especial precautions now? Of course, if the surroundings or the condition of the patient were such as to make the physician apprehensive of danger, or if the physician himself had been exposed to septic influences, it would be his duty to use appropriate precautionary measures; but he was yet to be convinced that such measures were necessary in ordinary cases.

DR. LYMAN thought Dr. Blake's objections to strict antiseptic in private practice were not tenable. Deaths from puerperal fever do occur in private practice as well as in hospitals. The vast majority of general practitioners have but a limited experience in comparison with those connected with public charities, and if the ratio of mortality between this public and private practice could be honestly worked out, the immunity claimed by the latter would, perhaps, not be so much a matter for congratulation. He had himself, with a comparatively limited experience, lost three cases from this cause in years past and he would not now feel at ease in conducting obstetric cases without rigid antiseptic precautions. If there be doubt as to their necessity, it is unquestionably our duty to give the

<sup>1</sup> See page 73 of this number of the Journal.

patient the benefit of the doubt. He thought that no man had a right in the present state of our knowledge to ignore these precautions. He hoped the reader's paper would have a wide-reaching influence for good.

DR. DOX said that the chart portraying the hospital's experience corresponded very closely with his own results in practice. Until six years ago he had taken no especial precautions and had used the ordinary napkin as a covering to the vulva: during that period of his practice he had four cases of puerperal fever. After that he began to use a compress or pad of carbolized cheese cloth and borated cotton; thereafter he had no septicæmia, but did sometimes have cases that caused him anxiety from rise of temperature and abdominal tenderness. Since the autumn of 1885 he had used a pad of cheese cloth and tissue rubber dipped in a 1 in 1000 solution of corrosive sublimate, and had used the same solution for disinfecting his hands. It was his custom also to have the genitals bathed every three hours with a 1 in 2000 solution, and a vaginal injection of the same strength was administered just before the birth of the child. Since adopting this method he had had no anxious cases. The fact that some practitioners of large experience had had no puerperal fever in the past was not a reason for omitting antiseptic precautions in the present day. Nor are these precautions necessary only in hospitals; for the danger of infection by the finger of physician or nurse is as great in private practice as in hospitals, and particularly so with physicians in large practice who are seeing continually both contagious and non-contagious cases.

DR. CHADWICK said that he had restricted his obstetric practice to such a degree that his recent experience did not enable him to contribute much to the present discussion. He could recall four or five cases of puerperal septicæmia, which at the time of their occurrence he was inclined to think were auto-genetic; but in the light of recent scientific work he was now satisfied that the infection was communicated by himself or others, although so far as he knew at the time he had been exposed to no special septic influences. He was in hearty accord with the teachings of the paper, and thought the methods recommended by the reader should be adopted in private practice.

DR. ELLIOT said the conditions of infection were the same in surgery as in obstetrics, and the proposed obstetric pad was like a Lister dressing; other things would do as well or better in either case. Winckel arrived at the conclusion before 1879 that the germs, which infected a patient, came not from the air (although the air is theoretically full of micro-organisms) but from the examining finger of nurse or doctor and from instruments; he believed, in short, in contact-infection and not in air-infection. Winckel did not, therefore, believe it was dangerous for a healthy puerpera to occupy a bed next to an infected patient, provided nothing from the infected patient came in contact with the healthy one. Great pains were therefore taken in Winckel's wards that fingers and instruments should be aseptic and no pads were used; and his mortality was only one-half of one per cent. It was hard for Dr. Elliot to believe in air-infection, when he knew that the peritonæum could be exposed during operations without spray for an hour or more without infection. He thought that Dr. Richardson's good results during the past year were not due to the introduction of the antiseptic pad, but to a most care-

ful and laborious drill of assistants and attendants in the details of cleanliness. Dr. Elliot had used corrosive sublimate in ovariectomy for cleansing hands, sponges, etc., for several years, and had found it to be on the whole the best antiseptic.

DR. BOARDMAN remarked that he had little if any thing to say except to commend the paper and to confirm the deductions made therein. While, of course, he had had an intimate relation with what had been tried and accomplished at the hospital and had contributed his share to the ill results and claimed a participation in the benefits attained; while he had observed, in a general way, the gradual improvement in the condition of the patients, which had been exhibited under the successive methods of treatment that had been followed since his connection with the hospital, he by no means had appreciated to its full extent, until very lately, the gradual evolution of the central idea which is embodied in the paper and which is so graphically illustrated by the diagrams, and he desired too, to take this opportunity to disclaim any credit for participation in the preparation of the paper which, obviously with much labor and care, had been written by his colleague alone, although with the utmost courtesy throughout he had kindly employed the plural "we" when the first person singular would have been more appropriate in most instances.

He thought it proper, too, to state that daily vaginal douches were finally abandoned only after mature consideration, and the responsibility for this change was assumed by Dr. Richardson, he (Dr. Boardman) having declined to initiate the change because he felt that under their use a notable improvement in the condition of the patients had been observed; indeed, he thought, at the time, that the results obtained were, perhaps, the best possible in a hospital and he felt that it was best to let well enough alone. The results of the experiment, however, appear to confirm the wisdom of the change as is very well illustrated in the diagram marked "dangerous," which, upon the very liberal though arbitrary standard adopted by the writer, indicates a notable improvement during the year 1886, when the douches were abandoned. And, again, this same diagram, taken in connection with the statements of the successive methods of practice which have obtained at the hospital, shows, at a glance, remarkably well the development of the fundamental rule which, we believe, should govern in obstetric antiseptics, namely, that success is to be reached by rendering the patient aseptic at the start, so far as we can, by preventing the admission of the germs which, it is believed, most if not all physicians of the present day regard as the efficient agents in producing sepsis, and which we believe must come from the outside, thus differing essentially in no wise from the methods most generally followed at the present day in abdominal and general surgery.

The lesson inculcated by the experience of Winckel, to which reference has been made by a previous speaker, and which by no means was peculiar to or original with him, was a valuable one, as every one must admit, and, in my opinion, may be employed as a valid argument in support of the theory which the paper is intended to advocate, namely, the prevention of the introduction of septic germs within the utero-vaginal tract. If recollection is not at fault, in Winckel's subsequent service septic cases have occurred which could not be traced to similar causes. In the

Boston Lying-in Hospital, too, before it was the custom to employ vaginal douches daily, when patients were treated in the traditional, let-alone way, except that external cleanliness was maintained, septic cases have repeatedly occurred which could not possibly be explained by the immediate contact of those who had charge, and made vaginal examinations, of the patients, at least so far as could be determined at the time. While we must admit the possibility of such an occurrence, it is believed that the paper demonstrates the fact that other factors have operated, as a general rule, to produce these many septic cases.

Individuals commonly refer to a large personal obstetric experience where no antiseptic precautions have been taken and yet they record a very small mortality and a trifling percentage of, or no, septicæmia, even when, as a rule, the surroundings of their patients would seem to have been such as to have favored the occurrence of this affection in many instances. They argue from these premises that the general practitioner is not called upon to resort to the precautionary measures under discussion which, however, they generally admit may be demanded in hospitals. In this connection we must not lose sight of the fact that the experiences of many, if not most, of these individuals extend back into years when the term puerperal fever included a multitude of ills, so to speak, when septicæmia was not at all, or imperfectly understood, and, too, a general statement of experience, covering many years and not confirmed by a definite reference to recorded details, is always open to question as to its accuracy. Admitting, however, the notable freedom from septicæmia in the practice of some individuals, the fact remains that septic cases do occur outside the hospitals, as is proved by the life insurance statistics to which allusion has been made in the paper, wherein it is stated that among 2,000 females insured quite a large proportion died from puerperal affections and accidents, and among the deaths a very large per cent. occurred from septic causes. These cases, in all probability, occurred in private practice and, further, it may rightly be assumed, in well-to-do classes of society and this fact alone would seem to invalidate the argument drawn from the favorable reports of individual experience.

It is understood from the paper that the records of the hospital indicate a pretty gradual disappearance of septicæmia in quite direct conjunction with the approach to the present practice of avoiding the disease by the most strict adherence to rigid rules which are regarded as efficient in preventing the entrance of bacteria into the parturient canal. It appears, too, that the paper shows quite conclusively that the disappearance of the disease from the hospital has not simply followed a law which has seemed obvious in some periods and assumed in others, that the septicæmic influence "has come and gone," without reference to treatment which has been employed against it, and this inference is confirmed by the similar and nearly simultaneous experience elsewhere, in this country and abroad, in localities so widely separated that it would be utterly unreasonable to refer to this so-called cyclic law or law of self-limitation as a valid argument against the deductions which the reader has made.

Dr. STRONG said that the introduction of antiseptics into obstetrical practice, as described by the paper of the evening with its convincing array of statistics, was a notable event in that department of medicine, being

the first complete experiment of that kind in New England. It seemed to him that any practitioner neglecting to enforce the principles laid down here must feel a direct personal responsibility for septicæmia among his patients. In regard to the slight danger of infection from bacteria of the air, as was shown by the immunity during long operations on the peritoneum, the cases seemed to the speaker not parallel, as in the one every precaution is taken in the way of ventilation, painting walls and floors, and insuring as thorough disinfection as possible; in the other, the air that comes in contact with the exposed surfaces is that confined under the bed-clothes of the lying-in woman, a most fruitful source of germs for infecting the lochial discharge.

The speaker thought it a great gain to have a safe and agreeable substitute for the vaginal douche in private practice; being convinced of the dangers that possibly attended the douche, it had been his custom never to employ it as a routine treatment, reserving it for personal administration only. As the speaker passed through two severe epidemics at the Lying-in Hospital, while house-pupil several years ago, he realized better than most of those present what the statistics meant in the way of freedom from anxiety and hard work.

He inquired what advantage was to be gained from the "sprinkler" rather than bathing the vulva, and if the pads were stained through. He was answered that patients liked sprinkling better, and the nurse was not obliged to touch the vulva: the pads were changed with sufficient frequency to prevent their being stained through.

In concluding, the speaker said that in obstetrics as in surgery, absolute cleanliness was the desideratum; in certain cases this could be accomplished by the use of pure air and water; but in the majority of cases more was needed, and this was the advantage which thorough and systematic employment of antiseptics gave; it ensured cleanliness, it was the easiest method of keeping the parts aseptic.

Dr. REYNOLDS admitted the pertinence and the importance of the criticisms made by Dr. Elliot; but he was not prepared to adopt unhesitatingly the conclusions to which those remarks pointed. Some of the speakers scouted the idea that grave and fatal disease occurs in any appreciable proportion, out of hospitals. The monthly mortality returns furnish constant evidences that this statement is not well-founded. Dr. Reynolds recalled in the first twelve years of his professional life, four cases of death among lying-in women, his patients being largely of the poorer class; one at least of these, an attack of the foudroyant type, where the fatal result occurred on the second or third day, after an illness of thirty-six hours, though he knew no explanation of it in the facts of the birth. Within only the last fortnight, he has seen in consultation two cases of septic poisoning that ended fatally in the second week of the lying-in. Both these women were in comfortable quarters; each of them has been attended by a man of the best ability, well known in this community. In neither case had the antiseptic pad been employed; although ordinary precautions against infection had not been neglected.

Dr. Reynolds is as unwilling as any colleagues can be to advocate fussy precautions in the lying-in room, or even in our attempts to control other forms of infectious disease. It is not unlikely that after a time,

perhaps after a comparatively short time, many details of the treatment which Dr. Richardson has described may be found unessential. This is, however, not yet true and our present obligation may be thus stated. After all child-birth a certain percentage of danger from septic poisoning exists. In lying-in hospitals, where all the causes of risk are greatly increased, the immunity from every disturbance of health, which the use of the aseptic pad secures, is simply marvellous. This contrivance is not costly, is easily applied, and gives great comfort. He who, in our present state of knowledge, rejects it in his private practice, becomes directly responsible for any dangerous septic symptoms that his patients suffer.

DR. BAKER said his experience at the Free Hospital for Women, before and after the adoption of rigid antiseptics, coincided with the results at the Lying-in Hospital. Although after labor there is a more extensive surface from which septic germs may be readily admitted, still in purely gynæcological practice there is sufficient opportunity for septic infection in the absence of efficient precautions. The Free Hospital has always been closed in summer and thoroughly fumigated with sulphur. Still, before the days of antiseptics, it was only in the fall and early winter that temperatures were low after operations: by February, temperatures began to run high and frequently operative work had to be suspended; thus much time was lost. When carbolic acid came to be generally used, there was some improvement in the general course of the cases. But since the spray had been given up, and corrosive sublimate had been used to bathe the parts during operations and to sterilize all germs on the hands of surgeons, assistants and nurses, temperatures had been low, cases had run smoothly, and there had been no occasion to suspend the operative work of the hospital. This experience proved to his mind the convincing character of the paper, and he thought the reader was entitled to great credit for the able manner in which he had brought the subject before the Society.

DR. GREEN said that the advantages of rigid antiseptics accrued not to the patient alone, who indeed was first to be considered, but to the physician as well, inasmuch as the chief anxiety of obstetric practice was thereby dispelled. Since he had adopted the methods now so clearly laid before the Society, he no longer apprehended the invasion of septicæmia in his cases, and his main care was the process of lactation and affections of the breasts and nipples. It seemed to him, therefore, that a purely selfish desire to be relieved of anxiety was a sufficient inducement for the physician to conduct his cases antiseptically.

The students of the Harvard Medical School who were put in charge of obstetric cases were instructed to conduct their cases with every attention to antiseptic detail. During the year 1886, over three hundred women, out-patients of the Boston Lying-in Hospital and Boston Dispensary, had been attended by students under his supervision: in this number occurred only two cases of septicæmia. One of these two cases was delivered by a midwife before the student arrived, and the other was conducted without antiseptics: both cases, however, recovered. Not only this, but there was a marked absence of high temperatures and abdominal tenderness, which features had been a frequent cause of anxiety before the method now in vogue had been adopted.

In closing the discussion Dr. RICHARDSON said that he was glad the sentiment of the meeting had been so favorable to the use of antiseptics in obstetric practice. While he agreed with Dr. Blake that septic cases were comparatively rare in private practice, he thought that their rarity had been overestimated, and that it should be our aim to avoid all danger, even though the possibility of the danger occurring was but slight. He had used in the hospital the corrosive sublimate in the strength of 1 to 2,000: but, having seen a few cases of mercurial poisoning follow the use of a solution of that strength, the proportion had been changed to 1 to 3,000, which was the strength now used by Professor Winckel in Munich. The use of the pad was merely to provide some safe antiseptic substitute for the napkin formerly used; and no especial merit was claimed for this particular form of pad.

## THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, December 16, 1886.

DR. HERMAN KNAPP delivered an address on

FERMENTATION, PUTREFACTION, AND SUPPURATION, WITH DEMONSTRATIONS AND EXPERIMENTS.

In introducing the subject, he spoke of the immense importance of bacteriology, which he thought was not yet sufficiently appreciated in this country. He had been particularly impressed with a remark made by Professor Brieger, of Berlin, a short time since, to the effect that the great majority of all diseases seem, in the light of recent investigation, to be of bacterial origin. In support of the correctness of this proposition, he referred to the weekly mortality lists of different cities, as reported in the *Boston Medical and Surgical Journal*. During the week ending August 28, 1886, the number of deaths from infectious diseases in New York City was set down at thirty-three per cent. of the total mortality; those from consumption at sixteen per cent.; and those from croup and diphtheria at about five per cent. Here were nearly fifty-five per cent. of all deaths attributable to diseases of undoubtedly bacterial origin. In addition, twenty per cent. of the deaths were from diarrhoeal diseases, and at least ninety per cent., if not all of these, were cases of germ disease. This brought the percentage up, therefore, to seventy-five; but this did not include such affections as pneumonia, peritonitis, syphilis, gonorrhœa, and skin diseases; and if only ten per cent. of these were classed as of this character, it would increase the percentage to eighty-five. As yet, however, nothing had been said of surgical diseases in which undue suppuration was caused by microbes, and estimating the mortality from these at five per cent., we had a grand total of ninety per cent. of all deaths to be attributed to disease of bacterial origin. It seemed, therefore, that Professor Brieger was right.

Bacteriology, he continued, had shown its principal fruit in surgery, and there could be no question that antiseptics had advanced this branch of medical science to its present high position. Antiseptics, however, was in reality nothing but the practical application of the three words—fermentation, putrefaction, and suppuration.

He then proceeded to give a *résumé* of the history of fermentation from the time when Lavoisier found

that sugar was split into carbonic acid and alcohol by the process of fermentation, which he thought to be simply chemical in character, knowing nothing of the animated life that was concerned in it. The discovery of the yeast-plant in 1835 threw a new light on the matter, and he gave some account of the researches of Ampère, Turpin, Franz Schultze, Liebig, Schwann, Helmholtz, Pasteur, Tyndall, and others since then in connection with this subject.

Fermentation he described as the decomposition of carbo-hydrates through the agency of the yeast-plant, and he compared the action of the latter to that of the bacteria which cause putrefaction and suppuration. Putrefaction was brought about by different kinds of microbes, fifteen or twenty varieties of which had now been discovered. There were, he said, two grades of putrefaction: The first was met with where there was but little oxygen present, and the products were water, carbonic acid, and ammonia, the process of decomposition being attended with little or no offensive odor. The second grade, or putrefaction proper, as generally understood, was seen where there was a large quantity of oxygen present.

Now the question arises, Dr. Knapp went on to say, whether suppuration and putrefaction are one and the same thing. Surgeons used the two terms promiscuously, and it seemed that suppuration, if not identical with putrefaction, was its consequence. There was, however, one cardinal point of difference, as would be mentioned further on. Having spoken of the experiments of Recklinghausen and others with the cornea of the frog, he referred to the common assertion of surgeons that, if all germs were excluded, suppuration would not take place. Personally, he had undertaken to investigate three special points in this connection, namely: (1) Does mere traumatism produce suppuration? (2) Do foreign bodies alone produce suppuration? (3) Do chemical agents of themselves produce suppuration?

In the first place, then, Does simple traumatism produce suppuration? In Berlin and at home he had made a number of experiments on the eyes of rabbits. If a wound were made by a perfectly clean instrument, he had found that it would heal by first intention, with no suppuration whatever; but if the wound were made with a contaminated instrument, suppuration invariably resulted. He now exhibited a rabbit in which extraction had been practised on one eye with a sterilized knife, and the other eye had been operated on with an instrument contaminated with pyogenic organisms. The result was that in one case the parts had perfectly healed, entirely without suppuration, while in the other profuse suppuration had been at once set up, and pronounced staphyloma finally produced. He said that he had performed a number of similar operations, and the results had always been the same.

One of the axioms on which antiseptics was based was that simple fractures never suppurate. While this was true, as a rule, there were rare exceptions; but it was a fact that when suppuration did occur, it was always in cases where some other focus of suppuration was found in the body. Whenever the individual was healthy, therefore, no suppuration would take place. In support of this statement, he mentioned the experiments of Becker, who, having made fractures in animals, injected pyogenic fungi into the ear, with the result of at once producing suppu-

ration, although the existing injury was only a simple fracture. Other similar experiments showed how ulcerative endocarditis and other suppurative processes could be produced by the introduction into the system of pyogenic organisms.

Dr. KNAPP then took up the second inquiry, Are foreign bodies by themselves capable of producing suppuration? The conclusion at which he arrived was, that if they were introduced antiseptically, they would produce no suppuration, and that they could remain indefinitely without giving rise to it. By way of illustration, he exhibited a rabbit, into the cornea of one of whose eyes he had introduced, by means of sterilized instruments, a piece of rusty hair-pin after having first brought the latter to a glow, for the purpose of destroying any organic matter which might be adherent to it. The result was, that no suppuration whatever occurred, although the foreign body had now been in the eye for quite a long time. Into the cornea of the other eye of the same rabbit he had introduced a piece of the same rusty hair-pin which had been dipped in fluid containing pyogenic fungi; and within twenty-four hours a violent phlegmon was set up which soon completely destroyed the eye. Still, the truth of the proposition that foreign bodies alone will not cause suppuration was not yet generally admitted, and Pasteur, in 1878, had stated that even if foreign bodies are introduced antiseptically, they were capable of producing suppuration. Whether he still adhered to the same view or not, Dr. Knapp was unable to say.

He then came to the third question, Do chemical agents by themselves produce suppuration? This, he said, was almost universally answered in the affirmative. Especially in the case of croton oil was it claimed that suppuration was caused without the intervention of germs. If this exception could stand, however, the theory of suppuration could not stand. It was a very difficult question to satisfactorily test in a practical manner; but the solution of the problem had been undertaken by four observers under very strict precautions. The results of their experiments went to show that chemical agents do not of themselves produce suppuration. In repeating some of these experiments Dr. Knapp had experienced much difficulty, especially as regards croton oil, on account of the extreme irritation caused by it. Oil of turpentine, however, he had found much more manageable. He had followed the method of J. Straus, which he proceeded to describe. On account of the practical impossibility of otherwise completely disinfecting the fur of the animal, he sterilized the skin of a rabbit by means of the actual cautery. Then, having made the injection of the chemical agent under the skin by means of sterilized apparatus, the opening made by the needle was sealed up again by the actual cautery. Some of the experiments were performed by means of a pipette, the opening in the skin through which its point was inserted having been made with a heated knife. With the experiments made with oil of turpentine and croton oil (although there were but five in which the latter was used) suppuration resulted in only ten per cent. of the cases. As a rule, there was coagulation of fibrin with some necrosis, but no suppuration; in the cases in which suppuration did occur, it was found that there were always germs present, on account of some imperfection in the performance of the experiment.

Roice, of Utrecht, had made the same experiments in connection with the anterior chamber of the eye; and this method of procedure had the great advantage of allowing the whole process set up by the chemical agent to be observed by the experimenter. Dr. Knapp had repeated Roice's experiments, and he had also in one instance introduced the chemical agent into the abdominal cavity. No appreciable effect was produced upon the animal, and when, two weeks later, it was killed, no pathological changes whatever could be observed at the autopsy. He here exhibited Koch's syringe, which he said he had found very useful in making his experiments. In his experiments upon the eye inflammation was caused, but no suppuration, even with croton oil; which he found could be used more satisfactorily when mixed with olive oil in the proportion of one to two. In some of the animals operated on the injection was made through the sclerotic. When the same chemical agent (either croton oil or turpentine) was introduced into the other eye in connection with pyogenic fungi, the most violent inflammation and suppuration were always produced.

He also made cultures from the two classes of eyes, using staphylococci principally for this purpose. From the eyes containing pus an immense number of microbes, with pus, resulted. But microbes (although no pus) were also obtained from the eyes from which pyogenic fungi had been excluded; and this required an explanation. The animals were killed, and the microbes were found not only in the eyes, but also in the kidneys and the blood; although there appeared to be none in the brain. It was evident, therefore, that the system had become infected through the suppurating eye; and the microbes which were found in the other eye had no doubt originated from this source. Hence it was determined to make the two different classes of experiments in two different series of animals, instead of operating upon both the eyes of the same rabbit. When the cultures were now made, no microbes were found to have come from the non-suppurating eyes. These experiments, he thought, were satisfactory and conclusive. In the eyes into which pyogenic germs were introduced in connection with the chemical agent, suppuration occurred, and microbes were found in large numbers; but in the eyes from which such germs had been excluded there were neither suppuration nor microbes. The results found in the latter were merely coagulated fibrin and fibrino-leucocytic exudation. Dr. Knapp thought, therefore, that so far as this whole series of experiments went, we were justified in formulating the proposition that suppuration is always produced by microbes; and hence there can be no suppuration without the intervention of these morbid agents.

What, then, is suppuration? he asked in conclusion. Just as in the case of fermentation, the microbe ought to enter into the definition. As previously remarked, fermentation was the splitting up of a hydro-carbon into similar forms through the agency of the yeast-plant. Putrefaction, again, was the similar splitting up of a nitrogenous substance through the agency of microbes. Finally, suppuration was likewise the splitting up of a nitrogenous substance through the same kind of agents. The difference between the two was, that in putrefaction the process always is concerned with dead nitrogenous substances, while suppuration always takes place in living ones. In this way the parallelism of these processes was established.

## THE BOSTON Medical and Surgical Journal.

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### PROTECTION OF THE PURITY OF INLAND WATERS.

SANITARIANS have long been impressed with the importance of protecting the purity of inland waters which furnish, or are likely to furnish, sources of domestic water-supplies; and manufacturers have been equally impressed with the difficulties attending such protection. In direct ratio to the density of the population, and the availability of the water-courses for manufacturing purposes, are the importance and the difficulty of protection increased. These two factors, density of population and availability of the water-courses reach their highest development in certain parts of New England, and preëminently in eastern Massachusetts; it is, therefore, natural that this State should be the first to attempt to grapple seriously with the problems involved.

A public Statute of 1878; the appointment and reports of three separate State commissions on drainage; the many excellent papers on pollution of water-supplies scattered through the volumes of the Board of Health reports almost from its origin in 1869, all testify to the growing appreciation of the magnitude and pressing nature of the problem.

In regard to certain watersheds all interests, the sanitarians, the legislators, the local authorities, the very manufacturers and inhabitants — are agreed that something should be done to provide for sewage and refuse otherwise than by emptying them into the streams and ponds; and yet from year to year plans, systems and charges are discussed and action is postponed.

The last legislature established another Act "to protect the purity of inland waters," the execution of which was intrusted to the State Board of Health. The principal duties of the Board as contained in that Act are summed up as follows:

- (1) To have the general care and oversight of inland waters.
- (2) To have the custody of maps, plans, etc., made for this purpose.
- (3) To recommend legislation and suitable plans for systems of main sewers.

(4) To cause examinations of the waters of ponds and streams to be made.

(5) To recommend measures to prevent the pollution of waters.

(6) To conduct experiments on the purification of drainage.

(7) To conduct experiments on the disposal of manufacturing refuse.

(8) To consult with and advise the authorities of cities and towns, or with others, with reference to water-supply and drainage.

(9) To consult with and advise manufacturers with reference to the disposal of manufacturing refuse.

(10) To bring to the notice of the Attorney-General all omissions to comply with existing laws.

The act further provides that authorities of cities and towns, and all others intending to introduce systems of water-supply or sewerage, shall submit to the Board outlines of their proposed plans or schemes in relation to these subjects; and that manufacturers intending to engage in any business, drainage or refuse, from which may tend to cause the pollution of any inland waters, shall also give notice to the Board of their intentions.

Under this Act the Board has made its first report to the Legislature, covering the first four months of the practical operation of the act from September 1st to December 31st, 1886. A chief engineer, an assistant and a consultant have been appointed, and the report of the engineer accompanies that of the Board.

Sanitary sins almost invariably have their origin in ignorance or selfishness, or in a combination of the two. As the Board of Health will be free from both of these influences, and we hope will know how to make itself felt as free from them, much may be expected from its intervention in these questions — provided it pursues them with the requisite zeal and tact, and provided the present legislature makes the necessary appropriation to defray the expenses entailed by the employment of expert engineers, chemists and biologists.

It is still an open question how far chemistry and biology are competent to establish the absolute safety of a given water-supply, but to be of positive value in determining the character of a body of water, of considerable size, subject to varying conditions, and its capacity for self-purification, examinations must be frequent and extended over sufficiently long periods of time, and such examinations involve expense. Moreover, it is only by such extended and systematic examinations that the rate at which the pollution of a stream makes progress can be determined.

Owing to their volume, and perhaps for other reasons, the Merrimac and Connecticut rivers were exempt from the operation of the Statute of 1878 for the prevention of the pollution of rivers and sources of water-supply. The Merrimac river, however, is at once the sewer and a source of water-supply of Lowell and Lawrence, two of the large cities of the Commonwealth and both among the large manufacturing centres of the world. In regard to this river the Board of Health reports to the Legislature that :

"The analyses of its water, made in 1873, 1879 and 1886, show that in 1873, when the amount of impurity in the water was sufficiently small to allow the water of the river, both at Lowell and at Lawrence, to be accepted as good drinking-water, the impurities then added by the sewage of Lowell and the refuse from the factories were so modified by flowing nine miles, and by being diluted by the increase in quantity of water, due to an increase of one-seventh of the drainage area, that the water at

Lawrence above the city was as good as that above Lowell; but in 1886 we find that, with substantially the same quantity of water flowing in the river, the percentage of impurities from animal and vegetable putrefaction, as shown by the albuminoid ammonia, has increased above Lowell by thirty-six per cent., and above Lawrence by fifty-seven per cent.; and that the impurities poured into the river at Lowell are now greater than the exposure to the air in flowing nine miles and the increased dilution can overcome, leaving the water above Lawrence with twelve per cent. more of impurities, due to animal and vegetable putrefaction, than that above Lowell, and fifty-seven per cent. more than it contained when the water-works were established at Lawrence, and now approximating the undetermined border line beyond which the water would be unfit for drinking.

"These results are obtained in September and October, when the quantity of water flowing in the river was about double the minimum quantity known to flow during a week of severe drought.

"At times of drought, and during the winter when the river is covered with ice, and the water having received the sewage of Lowell is not exposed to the air until it reaches the reservoir of the Lawrence Water-works, the percentage of impurities is probably increased, — notably above that given by the table; but of these conditions we have no analyses.

"In considering the table of analyses of the Merrimac river water still further, we find that, although polluted by the factories of Lowell and Lawrence, and such sewage as was there discharged, the analyses of 1873 showed the water above Bradford and Haverhill to be as good as that above Lowell; but this result no longer obtains, for the analyses of 1886 show the water above Bradford to have thirty-four per cent. more impurity than that above Lowell, and eighty-one per cent. more than it had in 1873, rendering it, unquestionably, an unfit source for the domestic water-supply of Bradford.

"This result is not unexpected; the same result has happened to every water-course in the State which happens to lie in the midst of a populous and growing district. A gradually increasing mass of pollution suddenly reaches a point at which the stream is no longer able to neutralize it, either by dilution or by any of the so-called processes of oxidation; and a condition of things is arrived at as disgusting as that of the Blackstone at Millbury, or of Alewife Brook in Cambridge and Somerville, or of the North River at Salem.

"In no one of these instances was the introduction of sewage a nuisance originally, and in no one of them would it have been possible to say in advance just where the saturation point would be reached."

The Board are of the opinion that the interests of the public require that, for one year at least, chemical and, when necessary, biological examinations should be made once a month, of all waters supplied for domestic purposes, by water boards, water commissioners and water companies within the State; and that thereafter such examinations should be made at intervals not exceeding six months.

They also believe that, with sufficient money to carry on experiments with scientific accuracy at some one of the public institutions of the State, where favorable conditions can be secured, very much can be learned in regard to the practicability of the disposal of sewage by irrigation fields under the conditions of climate to which we are subjected in these latitudes. Experiments are also contemplated upon the purification of sewage and refuse from industrial establishments. The Board estimates that the sum of \$30,000, will be required in the proper and advantageous discharge of its duties under the act.

We hope the sum will be appropriated, and it would not be amiss for physicians to impress upon their representatives in the Legislature the importance of the questions involved.

## ANTISEPTICS IN OBSTETRICS.

PROFESSOR RICHARDSON'S paper on the use of antiseptics in obstetric practice, and the free discussion thereof by the Obstetrical Society of Boston, both appearing in this issue of the JOURNAL, have placed this important subject so fully and clearly before our readers, that perhaps editorial comment is superfluous. Our admiration, however, of the scientific industry and clinical acumen which for years have been applied by the leaders in obstetric medicine to the investigation of the causes of puerperal fever, the media of its propagation, its prophylaxis and treatment, and our appreciation of the great benefits to mankind which will result from the universal acceptance and application of the now well-established principles of puerperal prophylaxis are such that we can forego no opportunity of contributing to the dissemination of what we believe to be the true principles of obstetric antiseptics.

While not underrating the importance of hygienic surroundings to puerperal women; while not ignoring the noxious effects of hospitalism and the consequent necessity of periodical fumigation and disinfection of hospital wards in addition to the usual attention to ventilation and general cleanliness, we are in accord with those who believe that puerperal fever is puerperal septicæmia and that it is propagated by contact, by infection,—by the introduction of septic germs from without to the inevitable abrasions and lacerations of the parturient canal.

This principle once accepted, the prevention of puerperal fever consists simply in taking due care that at the beginning of labor the vagina and genitalia of the patient are rendered aseptic, that during the labor and the puerperium all that comes in contact with the patient,—the examining finger, the hands of the nurse, catheters, forceps, needles, sutures, napkins and towels should be surgically clean; in other words, the possible infection by septic germs can be rendered impossible by sterilizing the micro-organisms before that which carries them comes in contact with the patient. The way and manner in which this can be accomplished has been admirably described by Professor Richardson.

We are aware that the advocates of rigid puerperal antiseptics meet with much opposition from those who, while admitting the great benefits accruing therefrom in lying-in hospitals, claim, nevertheless, that puerperal fever is comparatively rare in private practice and that unless some special reason exists therefore, rigid antiseptics is superfluous. Such opponents forget that there are minor and non-fatal forms of septicæmia; that, although death from septic causes is comparatively rare in private practice, fatal cases do nevertheless occur; that, apart from the fatal cases, there are many instances of tedious and prolonged convalescence with circumscribed peritonitis, phlebitis and other manifestations undoubtedly due to septic infection. Such cases cause the medical attendant much anxiety, and the patient undergoes the suffering,

confinement, and subsequent debility of a prolonged convalescence. Is it not worth while to prevent such complications by the application of rigid antiseptics to all cases? What valid objections can be adduced? The necessary precautions entail but slight expense; the trouble is very little to one who has once accustomed himself to the prescribed methods; the annoyance and possible danger of frequent douching is avoided, and the methods pursued are agreeable to the patient.

We have one word of caution, in connection with the use of the pad: let it not be conceived that the pad has any mystic power in the absence of other precautions. If unclean fingers and instruments are used during the labor, the pad might as well be dispensed with. Further, if for any reason the pad, which is in many respects a luxury, cannot be obtained, the customary napkin, if rendered thoroughly aseptic by immersion in a corrosive sublimate solution and subsequently dried before use, will fulfil the necessary requirement. The merit of the pad consists in the comfort it affords the patient in being soft, absorbent, and impervious; it requires less frequent changing than the napkin, and the patient is therefore less frequently disturbed. Moreover, the pad is destroyed after use, and the expense of washing thus saved is almost equivalent to the cost of the pad.

## FATAL EFFECTS FROM INODOROUS FUEL-GAS.

SEVERAL deaths and a large number of prostrations have recently been caused in Troy by the escape of fuel-gas from leaks in the mains; many of the cases occurred in houses which were not supplied with the gas, and it is supposed to have passed into the cellars through the ground or by means of sewer-pipes.

This gas, which on account of its cheapness and many practical advantages, has been very extensively used in Troy, is entirely inodorous, and is said to contain nearly thirty per cent. of the deadly carbonic oxide. It consists also largely of hydrogen, and is manufactured by the process of T. S. C. Lowe, of Norristown, Pa., from simple water; the water being first converted into steam in an ordinary steam boiler. Thence it is passed through one upright cylinder of boiler-iron lined with fire-brick and filled with fire-brick loosely thrown in. These fire-bricks are heated red hot by an air-blast upon gases derived from a second upright furnace of coal, which is made incandescent also by an air-blast. By the passage of the steam over the heated fire-brick, hydrogen, carbonic oxide and carbonic acid gas, are given off, and passing thence into the second furnace, the carbonic acid takes up one more part of carbon and becomes converted into carbonic oxide. The cost of manufacture is only about nine cents a thousand cubic feet of gas. When the accidents referred to occurred, the company very properly discontinued its production and it is likely

that the Legislature will prohibit its manufacture altogether in the State unless suitable safeguards can be devised in connection with its use.

Leaks necessarily occur in gas-pipes, and an inodorous gas, charged with carbonic oxide to a much less degree than this fuel-gas, ought not to be distributed.

Efforts to make this fuel-gas odorous by carbolic acid or naphtha—the latter making the fuel-gas similar to the illuminating water-gas—increase the expense beyond the point of profit.

#### THE TREATMENT OF STRICTURE OF THE URETHRA BY GELOSINE BOUGIES.

The treatment of urethral stricture by bougies of gelosine is an application of the principle whereby dilatation of the natural passages (like the cervix uteri) is effected by substances, which, like laminaria, swell under moisture.

Bedoin has lately reported to the Paris Société Thérapeutique satisfactory results in the use of gelosine bougies in urethral stricture. Gelosine is the Japan seaweed, which, in its dried state, undergoes a gradual and extreme degree of augmentation of volume when brought into contact with liquids, such as water, or the secretions of the human body.

Bedoin has devised cylindrical bougies of various sizes out of this alga, which, according to his experience (he has now tried them in several bad cases) when employed in stricture of the urethral canal effect very thorough dilatation, and with very little pain. He regards gelosine as fulfilling all the conditions requisite for the preparation of bougies which are strong and flexible, may be used with entire safety, and are sure to do their work thoroughly and effectually.

Such, at least, is the inventor's opinion. The introduction of tents into the strictured portion of the urethra was tried and abandoned about the middle of the last century, because of the serious accidents to which the method gave rise.

At the séance of the 7th of June, 1854, of the Paris Surgical Society, bougies of prepared sponge, as proposed by Professor Alquié, of Montpellier, were exhibited, but their use was evidently of short duration. Flexible ivory had been previously experimented with; bougies of this material possess, like sponge, the property of dilating in the canal, but, in practice, they dilated above and below the stricture faster than at the strictured portion, so that withdrawal was extremely difficult. Laminaria bougies were highly praised by Dr. Robert Newman in the *Medical Record* of July 1st, 1872.

The prolonged retention in the urethra of a bougie which fills the canal, keeping up only a passive, and not a constantly-increasing distention, is very likely to give rise to serious disturbances. Even the retention of a small instrument is an evil only to be suffered on special occasions. The constantly-increasing pressure of any slowly-dilating material within the urethra

is sure to prove an evil sooner or later, no matter how promising the first experiments with some new material may seem.

#### MEDICAL NOTES.

— Dr. James Davies states, in the *Therapeutic Gazette*, that the Druidic College of the twelfth century considered tannin the most potent of all the products of nature in producing sterility, and that tea-drinking, as practised by the public, undoubtedly acts in the same direction.

— Dr. J. J. Chisolm, of Baltimore, has been appointed Chairman of the Section of Ophthalmology in the Ninth International Medical Congress, in the place of Dr. E. Williams, compelled to resign on the ground of ill-health. Dr. Judson B. Andrews, Superintendent of the Hospital for the Insane, Buffalo, N. Y., has been appointed Chairman of the Section of Psychological Medicine, in place of Dr. John P. Gray, recently deceased.

— Dr. J. C. Reeve, of Dayton, Ohio, records in the *Philadelphia Medical News*, January 1, 1887, an instructive case of death from shock following the use of an aspirator needle. The patient had abscess of the liver, diagnosed before death, and confirmed by autopsy. The needle was introduced three inches in depth at a point two inches below the costal cartilages, and one inch to right of median line; the direction of its course being upward and backward. It punctured the liver but failed to reach the abscess which occupied the right lobe. No anæsthetic was used, and the patient was dead in ninety seconds after the operation. The heart was normal, and death was due to simple inhibition of its action.

— Dr. F. H. Darby, a prominent physician of Morrow, near Cincinnati, Ohio, was recently summoned to another town as a witness in a trial for wife murder. On taking the stand, he stated that he would answer any questions of fact that he could, but would not answer questions of opinion, that is, give expert testimony, without receiving an expert's fee. The judge told him such a fee could not be allowed and cited a decision of the Supreme Court of one of the States, that physicians could be compelled to give expert testimony without additional compensation. The doctor gave replies to all questions of fact but when asked to state "whether in wounds like this there would be immediate gaping or would the lips of the wound for a time remain in contact or nearly so?" he refused to reply. He was adjudged guilty of contempt of court but submitted to imprisonment for two days rather than recede from his position.

#### BOSTON.

— An order was introduced last week in the House of Representatives, which requires the Committee on Public Health to examine and report what legislation is necessary for protection against poisonous substances in wall and other papers, and in textile fabrics and other articles in common use.

— Another case of suicide from "Rough on Rats" is reported, in the person of a young woman nineteen years of age.

— The Boston Board of Health, through its chairman, Samuel H. Durgin, M.D., publishes the following summary of deaths in Boston, with principal causes, for the year 1886, compared with those for 1885; the whole population in each year being 400,000.

	1886	1885
Total No. of deaths from all causes	9,268	9,618
Annual death rate per 1000 inhabitants	23.17	24.04
Total No. from Zymotic diseases	1,644	1,879
Percentage of deaths from Zymotic diseases to total mortality	17.73	19.53
Total No. of Still-births	543	520
Total deaths of children under 1 year	2,110	2,156
Under 2 years	2,640	2,812
" " " "	3,166	3,466
Percentage of deaths under 5 years to total mortality	34.37	36.03
Total No. of deaths from diarrheal diseases under 5 years	605	621
Total No. of deaths from diarrheal diseases, all ages	705	723
Percentage of deaths from diarrheal diseases to total mortality	7.60	7.51
Alcoholism	29	52
Group	94	135
Carbuncle	3	7
Cholera Morbus	28	30
Cholera Infantum	444	461

## NEW YORK.

— During the progress of a fire on Vesey Street, which occurred January 21st, Superintendent Frederick Simmons, who attempted to cut a wire of the United States Illuminating Company, which caused obstruction to the firemen, was instantly struck dead by the force of the electric current with which it was charged.

— Dr. W. M. Lively, on January 20th, sent to the Bureau of Vital Statistics the certificate of death of Alice Downs, a colored woman, whose age he states to be 110 years, 11 months, and 9 days. She was born in Maryland, had never married, and had lived in New York for fifty-two years. The cause of death was pneumonia.

— Prof. E. L. Youmans, the well-known scientific writer and editor of the *Popular Science Monthly*, died January 18th, of fibroid phthisis, at the age of sixty-five. He was the intimate friend of Herbert Spencer, Huxley, and Tyndal. He studied medicine, and received the degree of M.D. at the University of Vermont, but never engaged in practice.

— At a meeting of the Section on Practice of the New York Academy of Medicine, held January 18th, Dr. E. Darwin Hudson, Jr., was elected Chairman for the ensuing year. A paper on "The Use of Quinine in the Pneumonia of Children" was read by Dr. Mary Putnam Jacobi, after which Dr. J. West Roosevelt read a paper on "A Short Account of our Present

Knowledge of Beriberi, with Observations on Cases recently in Bellevue Hospital." Dr. E. C. Seguin gave a report of three cases of beriberi in private practice, and Dr. H. H. Vineburg reported his observations of over one hundred cases in the Sandwich Islands.

— The annual meeting of the Saturday and Sunday Hospital Association was held January 18th, at St. Luke's Hospital. Among those elected members of the Executive Committee was Mr. Cornelius Vanderbilt. Mr. George McCollough Miller, who was re-elected President, in his address, suggested that the president of any auxiliary which should contribute \$1,000 or more should become a member of the Association for one year. The general agent, Mr. Cook, reported that the collections already amounted to about \$48,000, and that there was little doubt that the total would reach \$52,000, a considerable number of churches still remaining to be heard from.

— The popularity of the courses of lectures on anatomy, physiology, zoology, physical geography, and other scientific subjects, provided by the Legislature for the public school-teachers of New York and Brooklyn, and delivered by Professor Bickmore at the American Museum of Natural History, has been well attested by the increasing attendance from 121 at the opening of the course of 1884, to 140 at the opening in 1885, 286 in 1886, and 504 the present year. The lecture-hall is now entirely inadequate to accommodate those who wish to attend, and a bill providing for an enlargement of the Museum and better facilities for public instruction has been introduced into the State Senate.

## Miscellany.

## IS TETANUS CONTAGIOUS?

At the Société de Chirurgie, an interesting paper, as we learn from the *Lancet*, followed by discussion, was read by M. Larger, which seemed to show clearly that there were good grounds for believing in the contagiousness of tetanus. Four patients who had been treated in the Colmar Hospital were seized with tetanus at different intervals, and all died. The nature and severity of the wounds varied in each case from an amputation to a simple incised wound. The only thing common to them all was that the cases had all occupied contiguous beds. Tetanus is rare at Colmar. None of the patients had had anything to do with horses. A veterinary surgeon, M. Cagnat, had practised castration on horses for twenty-five years without a single case of tetanus. At the end of 1884, he removed with an écraseur a tumor of the testicle in a horse; the animal died of tetanus. Operations for castration practised with the same écraseur on five horses afterwards were followed by tetanus and death in all the animals. The écraseur was then submitted to disinfection by being heated to a high temperature. The instrument was afterwards used for fresh castrations, and without tetanus resulting in any of the animals operated on.

## LOCAL ANÆSTHESIA IN DENTAL SURGERY.

LAGRANGE, in the *Bulletin Gen. de Thérapeutique* (December 30, 1886), proposes the following means for the extraction of teeth without pain. He injects into the gums bordering on the teeth to be extracted a few drops (fifty centigrammes) of a three per cent. solution of carbolic acid, in which five centigrammes (or about a grain) of cocaine has been dissolved. The operation of extraction is quite painless.

His rules, as stated in the article in the journal aforesaid,<sup>1</sup> are as follows:

(1) Make a solution of cocaine (five centigrammes) in fifty centigrammes of carbolic solution (three per cent.).

(2) Inject thirty centigrammes of this cocaine solution into the gum outside of the decayed tooth, and twenty centigrammes into the gum inside of the tooth.

(3) The injection into the gum outside of the tooth must be made somewhat deeper than that made inside. This injection, moreover, has a much more marked anæsthetic action.

(4) In order that the insensibility may be complete, at least five minutes must elapse between the injection and the extraction.

(5) When roots are to be extracted, the injection should be made between the gingival border and the tooth, and the injection should penetrate as deeply as possible alongside of the roots.

(6) A little numbness and a slight shivering (*frémissement*) is apt to usher in the local anæsthesia determined by the injection.

## A PATHOGNOMIC SIGN OF CANCER OF THE STOMACH.

THE Paris correspondent of the *Lancet* says that at a recent meeting of the Société Médicale des Hôpitaux, a patient was shown who exemplifies the condition said by German writers to be characteristic of cancer of the stomach, a condition found by M. Debove to be constant in such cases, and which he proposes as a pathognomic sign of the disease. In malignant disease of the stomach, it will be found that hydrochloric acid is always wanting, whereas it lasts constantly during digestion in every other case. In M. Debove's patient, this absence of hydrochloric acid enabled a diagnosis to be made at a period when there was no other symptom of cancer, and the disease was looked upon as dyspepsia, an opinion shared by M. Debove himself until he had ascertained the composition of the gastric juice. Since the beginning of the year the man has been under observation, and the real nature of his disease, now constituted by a characteristic tumor the size of an egg, is no longer doubtful. In reply to questions, M. Debove said that he obtained the liquid for examination by means of the œsophageal tube, and that the test used for distinguishing the acids were those recommended by the Germans. A solution of gentian violet (1 to 5,000) gives a blue coloration with HCl. "*L'orange Poirier*" in saturated solution gives a red reaction with the same acid. Lactic acid is recognized by the increased yellowing of perchloride of iron, and by change in color of a mixture of perchloride of iron and carbolic acid, from amethyst-blue to yellow.

<sup>1</sup> Bull. Gen. de Thé., December 30, 1886.

## Correspondence.

## IN RE PASTEUR.

## ANOTHER SIDE OF THE REVEILLAC CASE.

MR. EDITOR.—In the *JOURNAL* for January 20th, an editorial deals with the case of young Réveillac, who died after having subjected himself to Pasteur's "intensive" method of inoculation. For the facts as presented in that editorial I will refer your readers to the editorial itself. To give those of them, however, who are debarred from access to French Medical journals, the opinions which were expressed by members of the Paris Academy of Medicine, in reply to Prof. Peter's assertions, seems but simple justice to Pasteur:

*Dujardin-Beaumetz* said (in brief): "M. Peter's case is interesting but not conclusive. He saw a man who had been bitten by a mad dog, who had been inoculated and who died frothing at the mouth, but this by no means proves that the patient died in consequence of the inoculation. It is very important to observe that many symptoms of rabies—ærophobia, hydrophobia, constant spitting,—were not seen in this patient, and also, as every one knows, that the paralytic form of rabies in man is absolutely exceptional. In every causal aspect this case is not proved, the less so in view of the fact that there has been a certain number of similar cases, in which it was shown that death was caused by anything but rabies; for example: the child who, bitten by a mad dog and inoculated by the "intensive" method, received one month later a blow on the ribs, experienced severe pain in this locality, went to bed, exhibited convulsive phenomena, which were attributed to rabies, and shortly after died. Animals inoculated with the spinal matter did not develop rabies. This child, then, did not die from hydrophobia. Probably succumbed to uræmic accidents. Scientific records show analogous cases."

*Brouardel* said: "I made the autopsy upon this child. It is sufficient to say that the diagnosis—rabies—had been made without examination of the urine and that the latter was very albuminous."

*Peter*, having reiterated symptoms which he considered as proof that his man died from rabies caused by the inoculation, *Dujardin-Beaumetz* replied: "A person may exhibit symptoms of hydrophobia without being mad," and he quoted cases in proof, then added: "In order to be certain that death is caused by rabies, all will agree with me that symptoms far more serious than those reported by M. Peter are necessary and I assert that the diagnosis of rabies ought not to be scientifically accepted until after positive inoculations with spinal matter from the subject supposed to have died of rabies, have been made."

*Chauveau* said: "With reference to paralytic hydrophobia I would say to M. Peter that it is not, as he believes, a hydrophobia of the laboratory. Ordinary rabies communicated by bites is often paralytic in animals. But suppose, in short—what is far from proved—that this man died mad; the conclusion in this particular case should then be, that the preventive inoculations were inefficacious and nothing more. This is very admissible because we all know that the immunity provided by the inoculations is never absolute. As to the assertion that rabies was communicated by these inoculations, that is another thing. I have just shown that the paralytic form of rabies proves absolutely nothing. I can say as much of the premonitory phenomena said to have taken their point of departure from the inoculated localities. These local phenomena are often missing; sometimes they are observed when rabies does not manifest itself. I have seen an example. In any case they have only an unimportant value and we can draw no conclusions whatever from their existence."

*Verneuil* said: "I think, in his communication, that M. Peter has abused the *post hoc ergo propter hoc*. When a person has been inoculated with an infectious malady and then dies, it is not always and fatally from this infectious disease. M. Peter's patient was bitten and inoculated.

Then, it is true, he died. But in view of the details of his illness, nothing is less certain than that the cause of his death was rabies. In fact everything is lacking in this case. Nothing has been said of temperature or spitting; there was no autopsy and no subsequent inoculation (with the spinal matter). Now, in order to draw conclusions, in a case of such gravity, absolute facts and not simple conjectures, are necessary. If we must abandon our illusions they will have to be wrested from us by facts of another sort of value than that of those we have just heard."

Thus ended the discussion, not one voice having been raised in support of Peter. The entire discussion may be found in *La Semaine Médicale* for January 5, 1887.

Yours respectfully, HAMILTON OSGOOD, M.D.

[We are happy to publish Dr. Hamilton Osgood's letter and glad to give all the comments made at the meeting of the French Academy upon the Réveillac case. Pasteur's side of the inoculation question has been frequently given in these columns, and it was with the purpose simply of giving "the other side" that we reproduced Professor Peter's statement in the editorial note referred to. His extravagant anti-microbism, as well as anti-Pasteurism, is too well known not to open his statement of any such question as that involved in the Réveillac case, to examination. Our editorial note referred to several of the points brought up in the debate, and, while one or two of our phrases may have been misleading, we by no means wished to indicate that Peter had proved his point.—Ed.]

# REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 15, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Diarrhoeal Diseases.	Acute Lung Diseases.	Diph. & Croup.	Measles.
New York . . . . .	1,439,039	814	395	24.48	1.59	21.77	9.10	8.99
Philadelphia . . . . .	971,353	409	127	13.20	1.30	15.36	6.72	.24
Brooklyn . . . . .	630,000	350	100	17.05	1.16	25.20	7.54	4.06
Chicago . . . . .	630,000	—	—	—	—	—	—	—
Boston . . . . .	399,406	199	61	13.28	.51	18.11	10.06	—
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,220	106	68	12.65	—	10.84	7.84	—
Cincinnati . . . . .	325,000	—	—	—	—	—	—	—
New Orleans . . . . .	238,000	110	23	54.54	18.18	11.82	18.18	—
Buffalo . . . . .	202,818	—	—	—	—	—	—	—
District of Columbia . . . . .	205,000	—	—	—	—	—	—	—
Pittsburgh . . . . .	190,000	106	50	34.44	2.82	19.74	14.10	11.28
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	118,070	—	—	—	—	—	—	—
New Haven . . . . .	79,000	—	—	—	—	—	—	—
Nashville . . . . .	60,000	26	10	19.25	—	15.40	—	—
Charleston . . . . .	60,145	31	8	12.92	—	6.46	6.46	—
Worcester . . . . .	68,383	28	10	—	—	24.99	—	—
Lowell . . . . .	64,051	30	13	40.00	13.33	6.66	3.33	10.00
Cambridge . . . . .	59,990	22	7	18.20	4.55	9.10	13.63	—
Fall River . . . . .	56,833	28	15	10.71	10.71	10.71	—	—
Lynn . . . . .	45,861	9	3	55.55	—	11.11	22.22	—
Lawrence . . . . .	38,825	11	0	9.09	—	18.18	—	—
Springfield . . . . .	37,577	—	—	—	—	—	—	—
New Bedford . . . . .	33,383	7	1	—	—	14.28	—	—
Somerville . . . . .	28,922	—	—	—	—	—	—	—
Salem . . . . .	28,084	14	4	—	—	—	—	—
Holyoke . . . . .	27,894	—	—	—	—	—	—	—
Chelsea . . . . .	25,709	9	1	11.11	—	33.33	11.11	—
Taunton . . . . .	25,674	10	0	—	—	10.00	—	—
Haverhill . . . . .	21,736	—	—	—	—	—	—	—
Gloucester . . . . .	21,713	—	—	—	—	—	—	—
Brockton . . . . .	20,783	9	1	—	—	22.22	—	—
Newton . . . . .	19,759	4	2	—	—	25.00	25.00	—
Malden . . . . .	16,407	5	1	—	—	—	—	—
Fitchburg . . . . .	15,575	5	1	—	—	—	—	—
Waltham . . . . .	14,993	2	1	16.66	—	—	—	—
Newburyport . . . . .	13,716	6	0	—	—	—	16.66	—
Northampton . . . . .	12,896	2	1	—	—	—	—	—
Massachusetts Towns . . . . .	—	—	—	—	—	—	—	—

Deaths reported 2,312; under five years of age 164; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 436; consumption 364, acute lung diseases 440, diphtheria and croup 189, measles 103, diarrhoeal diseases 38, typhoid fever 35, cerebro-spinal meningitis 11, erysipelas 11, scarlet fever 19, whooping-cough 16, malarial fever nine, puerperal fever five. From typhoid fever, Philadelphia 11, New York nine, Baltimore five, Brooklyn, Boston, and Pittsburgh two each, Charleston, Lowell, Lynn and Lawrence one each. From scarlet fever, New York six, Brooklyn three, Philadelphia four, Boston three, Pittsburgh two, Baltimore one. From whooping-cough, New York seven, Brooklyn four, Philadelphia and Pittsburgh two each, Lynn one. From cerebro-spinal meningitis, New York five, Nashville and Lowell two each, Philadelphia and Lynn one each. From erysipelas, New York five, Philadelphia two, Brooklyn, Boston and Charleston one each. From malarial fevers, New York five, New Orleans two, Philadelphia and Baltimore one each. From puerperal fever New York two, Brooklyn, Boston and Nashville one each.

In the 20 cities and greater towns of Massachusetts, with a

population of 961,138 (population of the State 1,941,465) the total death-rate for the week was 22.02 against 22.61 and 21.77 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,033,817, for the week ending January 1st the death-rate was 25.1. Deaths reported 4,574; infants under one year of age 951; acute diseases of the respiratory organs (London), 573; measles 244, whooping-cough 90, scarlet fever 80, fever 56, diarrhoea 36, diphtheria 30.

The death-rates ranged from 16.8 in Blackburn to 36.0 in Halifax; Birkenhead 22.4; Birmingham 22.9; Bradford 19.5; Brighton 24.2; Hull 31.1; Leeds 28.5; Leicester 21.7; Liverpool 32.4; London 23.9; Manchester 32.3; Nottingham 21.3; Sheffield 20.1.

In Dublin 38.0.

For the week ending January 1st, in the Swiss towns there were 32 deaths from consumption, lung diseases 19, diarrhoeal diseases nine, diphtheria and croup six, measles three, scarlet fever three, whooping-cough one.

The death-rates were: at Zurich 5.7; Geneva 16.2; Basle 17.0; Berne 25.7.

The meteorological record for the week ending January 15, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Jan. 15, 1887.	Barom- eter.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount in Inches.
Sunday, ... 9	30.230	11.0	14.0	3.0	69.0	84.0	94.0	82.0	N.	N.	N.	8	8	7	F.	N.	N.	—	—
Monday, ... 10	29.528	18.0	28.0	10.0	81.0	64.0	60.0	68.0	N.W.	N.W.	N.W.	6	19	17	O.	C.	C.	—	—
Tuesday, ... 11	29.830	17.0	24.0	6.0	61.0	50.0	63.0	59.0	W.	W.	W.	13	15	20	C.	C.	C.	—	—
Wednesday, ... 12	29.650	29.0	34.0	16.0	75.0	52.0	63.0	62.0	S.W.	S.W.	W.	10	14	13	C.	F.	F.	—	—
Thursday, ... 13	30.124	32.0	36.0	28.0	61.0	38.0	58.0	57.0	W.	W.	E.	14	7	3	C.	C.	O.	—	—
Friday, ... 14	29.776	21.0	37.0	11.0	100.0	100.0	81.0	94.0	E.	N.E.	48	26	17	N.	N.	R.	N.	—	—
Saturday, ... 15	29.764	15.0	18.0	10.0	91.0	92.0	68.0	84.0	N.W.	N.	N.	6	11	7	O.	N.	O.	41	0.83†
Mean, the Week.	29.844	204.						72.4											

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; N, snow; †, rain and melted snow.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 15, 1887, TO JANUARY 21, 1887.

FORWOOD, W. H., major and surgeon. Ordered for duty at Fort Meade, D. T. S. O. 5, Department of Dakota, January 14, 1887.

BROOKS, JOHN, major and surgeon. Ordered for duty as post-surgeon at Fort Monroe, Va. S. O. 10, Division of the Atlantic, January 14, 1887.

GARDNER, W. H., major and surgeon. Ordered for duty as post-surgeon at Fort McHenry, Md. S. O. 10, Division of the Atlantic, January 14, 1887.

POPE, B. F., major and surgeon. Ordered for duty at Fort Clark, Tex. S. O. 15, A. G. O., January 19, 1887.

#### SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.—There will be a meeting of this Section at 19 Boylston Place, Wednesday evening, February 24, at eight o'clock. Dr. David W. Cheever will report the following cases illustrative of the Surgery of the Abdomen. I. "Deep Abscess of Abdomen in a Child: Abdominal Section: Drainage: Recovery." II. "Abscess in Abdomen (Perityphlitic?) in a Young Man: Abdominal Section: Drainage: Tapping through Rectum: Recovery." III. "Pyo-Nephritic Abscess after Labor: Laparotomy: Drainage: Partial Recovery." IV. "Pelvic Abscess in a Female: Exploration through Abdominal Wall: Dilatation of Urethra: Drainage through Bladder: Partial Recovery." V. "Volvulus: Abdominal Section: Artificial Anus: Death." VI. "Herniotomy: Mortification of Bowel: Resection and Intestinal Suture: Death." VII. Stoppage of Bowels: Recovery without Operation." VIII. "Stoppage, and Peritoneal Irritation: Recovery without Operation."

GEORGE H. MONKS, M.D., Secretary.

#### ERRATUM.

On page 61, second column, line twenty-nine, of JOURNAL of January 20th, instead of "disappoints" read "often disappoints."

#### APPOINTMENT.

At the adjourned annual meeting of the Boston Society for Medical Improvement, Dr. O. F. Wadsworth was chosen President for the ensuing year.

#### DEATH.

Died at New Bedford, Mass., January 14, 1887, William Alexander Gordon, M.D., M.M.S.S., in the seventy-eighth year of his age.

#### OBITUARY.

##### ESTES HOWE, M.D.

Dr. Estes Howe died at his home on Oxford Street, Cambridge, Mass., January, 1887, at the age of seventy-two years and six months. He was a native of Northampton, and was a son of Judge Howe of that city. He was graduated at Harvard

in 1832 and subsequently studied medicine, being for many years a successful practitioner. At one time he resided in Cincinnati. Since coming to Cambridge he had represented the city in the Senate in 1859 and 1871, and was at one time a member of the Cambridge Water Board. Of late years he had not actively practised his profession. For thirty-five years he had been Treasurer of the Cambridge Gas-Light Company.

##### WILLIAM PERRY, M.D.

The oldest living graduate of Harvard College died January 11, 1887, at Exeter, N. H., in the person of Dr. William Perry. He was born at Norton, Mass., December 20, 1788, and was therefore at the time of his death aged ninety-eight years and twenty-one days. He was a member of the class of 1811 of Harvard. After graduating from Harvard Dr. Perry studied medicine with the eminent Dr. John Warren, and soon after settled at Exeter, where he enjoyed a long and successful practice. He was one of the first persons to advocate a State insane asylum. He attended church constantly from the time when, four years old, he went barefooted, to about six months ago. He leaves two sons, Dr. William G. Perry, the oldest practicing physician in Exeter, and John L. Perry, until within a few years connected with the *Cincinnati Gazette*, who now devotes his time to literary work. He was grandfather of Sarah Orne Jewett, the authoress. He was sole survivor of the passengers on Fulton's first steamboat passage down the Hudson River, August 10, 1807, being at that time on his way from Union College, Schenectady, N. Y., to Harvard College, which he had just determined to enter. On reaching Albany he found that none of the regular river boats would start for several days, but that the "Katherine of Clermont," Fulton's boat, then on her trial trip, had just reached Albany and would start on her return next day. He took passage on her as far as Kingston. After she landed him she travelled but a few miles before her boiler burst and she was laid up for repairs several days. Dr. Perry had retained his health up to the present winter.

#### BOOKS AND PAMPHLETS RECEIVED.

Transactions of the American Ophthalmological Society. Twenty-Second Annual Meeting. New London, Conn., 1886. Boston: Published by the Society. 1886.

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States. For the Fiscal Year, 1886. Washington, 1886.

First Annual Report of the Maine Eye and Ear Infirmary from its Opening April 23d, to December 1st, 1886, together with the Constitution and By-Laws. Portland, 1886.

Some Medico-Legal Cases under State and National Laws. By B. Joy Jeffries, A.M., M.D., of Boston. From the Transactions of the American Ophthalmological Society, Twenty-Second Annual Meeting, 1886.

Über subdiaphragmatische Echinokokken und deren Behandlung. Vortrag nebst Demonstration von drei geheilten Fällen gehalten im Verein für innere Medizin am 1. November 1886. von Dr. Leopold Landau, Dozent der Gynäkologie an der Universität Berlin. Berlin, 1886.

Report on Diseases of the Rectum. By Joseph M. Matthews, M.D., Professor of Principles and Practices of Surgery and Diseases of the Rectum in the Kentucky School of Medicine, Louisville, Visiting Surgeon to Louisville City Hospital, etc. Read before the Kentucky State Medical Society, at Winchester, June 24, 1886. Louisville, Ky., 1886.

## Lecture.

MULTIPLE NEURITIS AND ITS RELATION TO CERTAIN PERIPHERAL NEUROSES.<sup>1</sup>

BY M. ALLEN STARR, M.D., PH.D.,  
Professor of Nervous Diseases, New York Polyclinic.

THE discovery of a new disease is never made suddenly. It is a gradual process, and certain stages in the progress towards its complete recognition may be observed. There is first the period of clinical observation, when isolated cases of an unfamiliar and mysterious affection are recorded as curiosities. To this succeeds the period of diagnosis, when, by a comparison of the now numerous cases, a clinical picture of the disease is gradually filled out. In this stage there is much to impede the progress of discovery. For not content with an analysis of symptoms, and a grouping of cases, the majority of observers offer theoretical explanations of the nature of the new affection, and an element of speculation enters, which often obscures the facts. There is, however, a real progress in this period, for it is characterized by inductive reasoning from fixed data, and, as a result, reliable conclusions are reached, which make a diagnosis possible. The third period is that of pathological discovery, where the morbid changes lying at the basis of the disease are accurately ascertained. In this stage erroneous theories are eliminated, true explanations for various symptoms become self-evident, and the exact nature of the affection is determined. The disease has now a status of its own. And at first this might seem to be the final stage in the progress of discovery. It is not. There remains a period of etiological classification, when conditions, formerly supposed to be dissimilar, are found to have a common basis, when the pathological changes are ascertained to be the same although the clinical pictures have varied, and when classification of the various forms is rendered possible and a definition of the disease is reached.

Such a gradual advance toward general recognition is well illustrated by the history of multiple neuritis, which is to engage our attention at the present time.

I think we may claim that one of the first cases presented was by an American physician, Dr. James Jackson, of Boston, in 1882.<sup>2</sup> In a paper "On a Peculiar Disease Resulting from the Use of Ardent Spirits," which he named arthrodynia, he gives a most graphic picture of what we now know to be one form of multiple neuritis.

He says, "This disease comes on gradually. It commences with pain in the lower limbs, but especially in the feet, and afterward extends to the hands and arms. The hands may be affected first in some instances, and in all cases in an advanced state the pain is more severe in the feet and hands than in the upper part of the limbs. The pain is excruciating, but varies in degree at different times. It is accompanied by a distressing feeling of numbness. After the disease has continued a short time, there takes place some contractions of the fingers and toes, and inability to use these parts freely. At length the hand and feet become nearly useless, the flexor muscles manifesting, as in other diseases, greater power than the extensors. The whole body diminishes in size, unless

it be the abdomen, but the face does not exhibit the appearance of emaciation common to many visceral diseases. The diminution is especially observable in the feet and hands, and some time the skin of these parts acquires a peculiar appearance. The same appearance is noticed in a slighter degree in the skin of other parts. This appearance consists in a great smoothness and shining, with a sort of fineness of the skin. The integuments look as if tight and stretched, without rugæ or wrinkles, somewhat as when the subjacent parts are swollen, but the skin is not discolored. Yet in this disease there is not any effusion under the skin, and the character which this assumes arises from some change in the organ itself. The most characteristic symptoms are manifested in the limbs, but the pain is not limited to these — and other symptoms are exhibited in other parts. The pain sometimes shoots suddenly up one or both legs, and in one case it frequently passed up the back and then forward to the pit of the stomach. The functions of the stomach are always impaired. The mind is weakened. Sleep is prevented by pain. I believe that this disease is always fatal when the use of spirituous liquors is not abandoned before the powers of the digestive organs are greatly impaired."

It is hardly possible, even at the present day, to add to this description, which portrays in strikingly vivid language the main features of one form of multiple neuritis.

The next observations of importance in establishing a clinical picture were made by Magnus Huss, who, in his work upon chronic alcoholism, in 1852, gave a very complete description of alcoholic nervous symptoms, dividing the cases into paralytic, anesthetic, convulsive, epileptic, and hyperæsthetic forms.

In 1855 the great work of Duchenne was published,<sup>3</sup> and in it a number of cases are recorded which we now recognize as multiple neuritis. In these cases there were sensory disturbances, consisting of pain, numbness and loss of sensation; motor disturbances consisting of paralysis, with atrophy, especially marked in the distal parts of the extremities, and attended by a loss of faradic contractility in the paralyzed muscles; and cyanosis, coolness, and increased sweating in the affected limbs. Duchenne grouped these cases together under the title, "Paralysie Générale Spinalé Subaiguë Ascendante," because he thought a gradual advancing lesion in the spinal cord, from below upward, would explain the symptoms. It is true that he found no microscopic change in the cord in the only case in which he made an autopsy. But when, under the leadership of the French school, from 1860 to 1865, the microscopic appearances in nervous lesions began to be studied, the hypothesis of Duchenne at once appeared to be verified, for it was found that such symptoms as numbness, pain and anesthesia were associated with lesions of the posterior columns of the spinal cord. And it was also proven that atrophic paralysis was caused by a degeneration of the ganglion-cells of the anterior gray horns of the cord, not necessarily visible to the naked eye. It seemed an easy step to the conclusion that when these symptoms occurred together, the entire spinal cord was the seat of disease, and that wherever they occurred a spinal lesion was progressing. The pathology of this form of paralysis appeared to be definitely ascertained, and for many years the fallacy of such a conclusion was

<sup>1</sup> Lecture I of the Middleton Goldsmith Lectures, delivered under the direction of the New York Polyclinic Society, Jan. 25, 1887.  
<sup>2</sup> New England Journal of Medicine and Surgery, Vol. xi, p. 351.

<sup>3</sup> Electrization Localisée.

not detected. All atrophic paralysis was invariably referred to spinal lesions, because spinal lesions may cause atrophic paralysis.

But facts rarely accommodate themselves permanently to theories, and after a time a mass of very unwieldy facts began to accumulate. Cases of atrophic paralysis without spinal lesion were observed, and these, threw doubt upon the theoretical pathology. The period of true pathological observation had begun and gradually went on to completion. In 1864 Dumeuil reported the following case, which deserves to be cited, as it is the first in which an autopsy established the existence of a wide-spread disease in the peripheral nerves as a cause of sensory motor and atrophic symptoms.

*Observation I.*—A tailor, aged sixty-one, after suffering from pricking in the toes for two weeks, was suddenly taken with weakness in the left arm and right leg, and, a few days later, by the same paresis in the left leg. Within five days he could not stand or walk. The paralyzed feet hung flaccid, and were totally paralyzed; the thighs could be moved freely. Anaesthesia was found on the right sole and calf, and on the left foot and outer side of the leg. In the muscles of the hands and forearms a considerable atrophy, with paralysis, developed. The faradic contractility was abolished in the paralyzed muscles. He complained of a painful numbness in the paralyzed limbs up to the knees, and limited to the hands.

No improvement; death in four and a half months.

*Autopsy:* Spinal cord and nerve roots were normal. The finer nerve-branches in the legs and hands were degenerated, only a small number of nerve-fibres being found. Single fibres showed no continuous myelin sheath; but this was segmented and granular. There was an increase of connective tissue, and many fat cells in the nerves.\*

This case being of an anomalous character excited very little attention. Two years later, however, Dumeuil reported another, and published an elaborate article on peripheral paralysis, in which he said: "My own observations have convinced me firmly that many paralyzes of obscure origin are caused by true spontaneous neuritis." . . .

Singular as it may seem, an interval of ten years elapsed before another case of similar nature, accompanied by a record of *post-mortem* examination, appeared. Then Eichhorst, of Berlin, reported the following interesting history:

*Observation II.*—A female, aged sixty-six, after suffering daily for two weeks from a chill, fever, and sweat, attended by malaise, anorexia, and constipation, noticed an oedematous swelling of both feet and legs, and complained of pain in the abdomen. A week later, on admission to the hospital, these symptoms continued. The urinary examination was negative. Three days after admission she suddenly felt a severe boring pain in the left leg, shooting into the toes, and at the same time a profuse sweat broke out over the calf and back of the foot. A few hours later a total paralysis was found in the muscles supplied by the peroneal nerve, with a marked anaesthesia. The electric reaction, at first preserved, was found two days later to be gone. After six days, during which she had no further chills, a paralysis of the anterior tibial nerve developed, and soon after of the posterior tibial nerve also. One week later entire paraplegia of the

legs, with anaesthesia, severe pains, continual sweating, increasing oedema, and loss of the tendon reflexes had ensued. There followed a paralysis of the left, and soon after of the right, radial nerve. Moderate fever continued and albuminuria appeared. Three weeks after her admission sudden blindness developed, the ophthalmoscopic appearance, being at the time normal; the patient then lay in bed with eyes closed, unable to move a limb. The extremities perspired constantly, and were tender, any pressure on nerve-trunks being very painful. In the face there was no trouble, and the senses were normal except that of sight. No trouble in swallowing. Nothing abnormal about the viscera during the entire disease. No irregularity of pulse or respiration. Death occurred on the forty-fourth day of the disease.

*Autopsy:* Spinal cord absolutely normal. The nerve-trunks in the bicipital grooves appeared intensely red to the eye, the perineum being discolored and the endoneurium blood red. The same appearance was noticed in the large nerve-trunks of the arm in their course, as well as in the left tibial nerve. The microscopic examination showed a remarkable distention and tortuosity of the blood-vessels of the perineum; the vessel-walls were thickened, their nuclei increased. In the vicinity of the vessels a large number of lymphoid cells were found, which everywhere followed the vessels and infiltrated the connective tissue. There were also numerous fatty cells. The connective-tissue fibrillae of the perineum were thickened, shining, and swollen; their nuclei were increased and partly infiltrated with fat granules. Similar changes now seen in the endoneurium, namely, numerous extravasations of blood, which separated the nerve-fibres and compressed them. The nerve-fibres showed marked degeneration, especially those lying next the endoneurium, consisting of disintegration of the myelin sheath, and a distention and spindle-shaped swelling of the individual nerve-fibres. The nuclei of the sheath of Schwann were not increased in number, but the protoplasm about them was coarsely granular and opaque. The cells of the endoneurium were everywhere wanting, being replaced by fatty granular cells, even between the uninjured fibres.<sup>5</sup>

This is the first case to be found in which the microscopic appearances are described with sufficient detail to be satisfactory. It is to be noticed that here the lesion was an acute inflammation, and was, apparently, a diffuse one, both interstitial tissue and nerve-fibrils being involved in the process. That it was primarily an interstitial inflammation, and that the affection of the nerve-fibrils was secondary, due to pressure of the products of exudation, is clearly seen in the fact that those fibres were more seriously affected which lay near vessels, while the deeper fibres in large bundles were not at all degenerated. The appearance of the fibres was such as occurs in any degeneration from pressure. There is no reason, therefore, to believe that the process began diffusely.

As to the symptoms in this case, it is to be remarked that they were ushered in by an acute febrile movement with chills, and that severe pain was an early and prominent symptom; also that oedema and sweating were present; and the optic nerves were involved.

The clinical picture in the following case of Joffroy, published three years later, was somewhat different, as was also the pathological condition.

\* Dumeuil. Gaz. Heb., 1864, p. 263, and Gaz. Heb., 1886, No. 4.

<sup>5</sup> Eichhorst. Virchow's Archiv, Bd. 80, p. 265, 1876.

**Observation III.**—A washerwoman, aged thirty-three, in the last stage of phthisis, was admitted to the hospital on March 5th. In February she had noticed a rapidly increasing weakness of her legs, and at the time of admission she could not walk or raise her feet from the bed. She could flex the knees but not extend them. There was no contracture, and the muscles were relaxed and flabby. Sensation to pain, temperature and pressure impressions, was normal, but the muscular sense was lost, and reflexes were diminished. She showed such a degree of mental weakness that tactile sense could not be tested. She had no shooting pains, no loss of control over bladder and rectum, no bedsores. Two weeks later the arms became involved in the paralysis, and atrophy, incoordination, and loss of muscular sense, with fibrillary motions, developed within a few days. There was great diminution of faradic excitability in all the paralyzed muscles. At the end of ten days the arms were entirely powerless, but retained their sensibility. On April 7th she died.

**Autopsy:** A chronic meningitis of the brain explained the mental symptoms. The spinal cord was normal. The nerves appeared normal; but microscopic examination showed very marked degeneration in all the nerve-trunks, but especially in the sciatic, radial, and ulnar nerves. There was a segmentation of the myelin sheath, which at places was reduced to a finely granular mass. Many sheaths of Schwann were filled with this mass; others were empty. The nuclei of the sheaths of Schwann were increased in number. All the spinal nerve-roots were normal. The changes in the nerves were followed down into the fine terminal branches in the thenar muscles. The muscles were atrophied, and showed fatty degeneration.<sup>4</sup>

Here, in contrast with the preceding case, it is to be noted that the lesion was not attended by congestion of the nerves, or by any exudation of lymphoid cells, or by marked interstitial changes. The affection was a true parenchymatous inflammation, with degeneration of the myelin sheath, and axis cylinder. As a result, the microscopic appearance of the nerves was not such as to attract attention, and it required a microscopic examination to demonstrate the changes present. Joffroy, who reports this case as one of general spontaneous neuritis, finds the lesion identical with that observed in cases of localized neuritis occurring from cold, from lead-palsy, or as the sequel of the infectious diseases. In regard to the symptoms, also, the case contrasts strongly with the preceding one. The patient had phthisis. The disease advanced more slowly. Pain was absent, and the sensory symptoms were by no means prominent, the muscular sense being the only one affected.

In 1880, the following cases were observed by Leyden in the Charité Hospital of Berlin, in both of which changes were found in the peripheral nerves. They are cited because they not only enlarge our clinical picture, but confirm the pathological conditions already described. . . .

When the characteristic features of a new disease have once been clearly pointed out, it is remarkable to observe how rapidly cases of it begin to be recognized. In the two or three years which followed the appearance of Leyden's article, numerous cases of multiple neuritis were reported in the journals; and

many physicians, reviewing their records, recognized, in cases previously obscure or imperfectly diagnosed, typical pictures of the new disease. It may be well to consider a few of these cases, in order to complete our clinical knowledge of the affection.

**Observation VI.**—A female, aged thirty, of intemperate habits, but otherwise in good health, after suffering from fornication, coldness, and pains in her feet and legs for some months, noticed an oedema of both legs. This increased rapidly after a few days, and the swollen limbs became painful to touch or pressure, and were the seat of severe, lancinating pains, which were worse at night. Within a month the same symptoms appeared in the arms and hands, and a marked hyperæsthesia developed in all the extremities, as well as a rapidly-progressing paralysis; so that, on admission to the hospital, six weeks after the appearance of the oedema, it was impossible for her to lift her limbs from the bed, or to extend her hands and fingers. The movements in the distal portions of all the extremities were much more impaired than those near the trunk, and in the paralyzed extensor muscles the faradic excitability was almost abolished. Heart and kidneys normal. She had some fever, and was delirious at night. The symptoms increased rapidly; the paralysis became total; respiration became difficult; the heart rapid, and a week after admission to the hospital she died.

**Autopsy:** Tubercles in the lungs. Brain and cord were normal. Nerve-roots were normal. In the nerves of the extremities marked degeneration was found, especially in the radial and tibial nerves. By the side of a small number of empty sheaths were found fibres, whose myelin was segmented and in drops, separated by empty spaces. The axis cylinders were indistinct. There was no increase in the nuclei of the sheath of Schwann.

In discussing the case, Dr. Lanceraux made the diagnosis of alcoholic paralysis, assigning the lesion to the nerves, and differentiating it from a myelitis or a meningitis. In so doing, he criticised the view of Wilks and Lockhardt Clarke, who still considered alcoholic paralysis as a central disease. He cited another case, very similar, of a female aged thirty-three, in which the symptoms were pains, hyperæsthesia, tenderness, paralysis, with atrophy in the extremities, but in which oedema was not so marked, and came on quite late in the course of the case. The same lesion were found. To these he added two cases, in which the patients manifested the same symptoms, but had never drunk. They were both, however, sellers of varnish, and lived day and night in an atmosphere permeated by alcoholic vapor, from which he concludes that chronic alcoholic poisoning can occur by absorption through the lungs—a valuable observation, but hitherto not confirmed.<sup>7</sup>

The following case was reported by Granger Stewart, together with two other cases, which resulted in recovery:

**Observation VII.**—A male, aged thirty-one, noticed during August, 1880, a weakness of the legs, and during the following month a pain of a prickling character in the legs and feet. These increased in intensity, and in October a similar feeling came on in the fingers and hands, accompanied by a loss of power and stiffness. When seen, in November, he had a tingling

<sup>7</sup> E. Lanceraux. De la Paralysie Alcoolique, Gaz. Heb. de Méd., 1881, p. 120.

<sup>4</sup> A. Joffroy. Arch. de Phys. Norm. et Path., 1879, pp. 172-198.

pain in both legs, from the knee to the back of the foot, with numbness and feeling of cold in the toes and plantar surfaces, so also in the hands, to a less extent. No girdle pain or formication. Sensibility to touch was diminished in the legs and hands. Transmission of impressions was delayed. Sensibility to heat, tickling, and pain were all diminished, as was also the muscular sense in the feet. There was no nystagmus, although he complained of things dancing before his eyes. Sight was normal. There was no incontinence of urine or feces. The skin reflexes were absent in the soles, but normal in the abdomen and groins. The knee-jerk was absent. Voluntary motion was greatly impaired in legs and arms, and attempts to use the muscles caused pain. Electric irritability of the muscles, and sensibility of the skin was much diminished. There was no vaso-motor or trophic changes. His mental condition became changed during his stay, his memory was impaired, and he seemed drowsy. A month after his first examination he died of pneumonia.

Autopsy by Dr. D. J. Hamilton: The median, ulnar, and tibial nerves showed great changes. With a low power of the microscope, the bundles of fibres appeared to be affected by fatty degeneration. With a high power, it was found that the axis cylinders were swollen, so as to form a number of fusiform bodies in the course of the nerve-tubes. These, at parts, were divided into a number of round, homogeneous, colloid bodies. When set free, these bodies underwent a fatty degeneration, forming compound granular corpuscles. In some fibres the axis cylinder was totally destroyed, nothing but a quantity of fibrous tissue remaining. The cords of the brachial plexus and the sciatic nerves were normal. Slight evidence of secondary sclerosis in the spinal cord was found in the columns of Goll, and in the direct cerebellar columns. Its origin could not be explained.\*

It must not be supposed, from the fact that all the cases so far cited were fatal, that death is always the result in multiple neuritis. This is very far from the truth, and probably, if the mortality had been greater, the pathology of the disease would not so long have eluded search. The fatal cases have been brought together, in order that the pathological appearances observed might be noted and compared, and might become somewhat familiar by repetition. It is time to enter upon the more careful study of their pathology, and so, for a time, let us leave the clinical features of the disease.

[The lecturer then reviewed the normal anatomy of a nerve, before proceeding to discuss the changes occurring in inflammations of the nerves. This part of his subject was profusely illustrated.]

#### THE PATHOLOGY OF MULTIPLE NEURITIS.

In studying the pathological processes which occur in multiple neuritis, it is necessary to keep these various elements of the normal nerve in mind, since each element is subject to changes. The exact character of these changes is best understood by observing the results of nerve-degeneration artificially produced in animals. And a study of this will not be out of place here, for, as we shall see, the changes occurring in multiple neuritis correspond quite exactly to those produced by experimental degeneration.

In considering the pathology of degenerative neur-

itis we enter at once upon a mass of controversial statements. It would seem to be a simple matter to establish, by observations upon nerves which had been experimentally compressed or severed, the changes which ensue in nerve injuries. But, as a matter of fact, there is, perhaps, no field of experimental pathological inquiry in which the results have differed more widely. In the first place, it is probable that the rapidity and even the character of the changes differ in different animals. Secondly, various methods of investigation, of hardening, dissecting, and staining the nerves, seem to have resulted in the production of different appearances. And, lastly, it is by no means certain that a uniform pathological process goes on after experimental lesions. After a lesion of a nerve-trunk, a process of degeneration sets in at the point of injury, and involves a small portion of the central end and the entire peripheral part of the nerve, from the seat of injury onward. This process may be more or less complete, and may, or may not, be followed by a second process of regeneration in the diseased nerve. It is necessary to distinguish between the degenerative and regenerative processes; and, inasmuch as it is affirmed that they may proceed simultaneously in various parts of the same fibre,\* it is not strange that the confounding of the two should have increased the confusion in the statements.

The majority of writers upon nervous diseases and upon general pathology seem to have followed Ranvier closely, without any mention of the fact that other authorities differ from his conclusions. It will be necessary here to present the various views which are held.

[The process of degeneration was then described in detail, and the differences of opinion pointed out.]

Authorities seem to agree that the same results follow a division of a nerve that are observed after its compression, with the difference that at the point of section the myelin runs out of the sheath of Schwann. The cut ends become swollen into bulbous extremities by a growth of connective tissue.

Whether a true union of the divided ends ever occurs is still a matter of uncertainty. The majority of authorities, following Ranvier, affirm that while a primary coaptation of the ends by an exudate which is secondarily transformed into connective tissue, may occur and hold the ends in position, no true primary union of nerve-fibres is possible, and under all circumstances the degenerative process already described goes on to completion. Glück, however, claims to have observed an actual union of the two ends, with re-establishment of function, at a time too early to have admitted the occurrences of degeneration and regeneration, and Walberg, approaching the subject from the surgical side, and considering the results of nerve-suture, inclines to the same view.

In the midst of such contrary statements, what conclusion can be reached as to the actual facts? It seems evident that but one conclusion is certain, namely, that under different circumstances different processes occur. The various observers are equally trustworthy. It is impossible to choose one set of conclusions rather than another, or to rely wholly upon one series of experiments, however capable the observer may be, for they all rest upon repeated observations. It is undoubtedly true that in some cases

\* Granger Stewart. Edinburgh Medical Journal, April, 1881.

\* E. Neumann. Ueber De- und Regeneration der Nerven, Arch. f. Mikro. Anat., xviii.

the degeneration process, so graphically pictured by Ranvier, from the beginning segmentation of the myelin down to the final result in the connective-tissue strand, the relic of the empty sheath of Schwann does go on; while in other cases of a less serious nature the distinction is less complete, and there remains a fibre consisting of a sheath of Schwann, containing a granular mass which may be either an axis cylinder or a mass capable of developing into an axis cylinder under favorable circumstances. If this is the case, we can affirm that brilliant surgical successes, with rapid restoration of nerve function after suture, are possible when the partial degeneration is present, but are impossible when the total destruction of the nerve-fibre has occurred. And statistics show that there is a certain percentage of operation which fail of any result, though repeated on the same nerve. . . .

It is evident that future research should be directed, not so much to determine which of the processes described occurs, as to settle under what circumstances the one is produced rather than the other. And such research will have an eminently practical bearing, inasmuch as it will also demonstrate under what circumstances nerve-suture is likely to be attended by success.

#### THE PROCESS OF REGENERATION.

After the process of degeneration has gone on for some time in the nerve-fibre, it may cease, and the process of regeneration may begin. With regard to the method of this process two widely divergent views are held. Ranvier<sup>10</sup> and his followers claim that the new nerve is wholly a product of the central end of the injured nerve, growing out from it and making its way along the track of the peripheral end, which takes no active part in the process. Neumann and Mayer, on the contrary, believe that the regeneration goes on in the peripheral end of the cut nerve, segment by segment being formed successively, beginning at the point of injury and proceeding outward, the entire nerve being built up by the union of each distal segment with the one lying centrally to it, until this process has reached the end.

[To these various views was given a more exact statement accompanied by numerous illustrations.]

The process of degeneration in the nerves, consequent upon the destruction of the ganglion cells from which they arise (the so-called Wallerian degeneration) differs in no respect from that ensuing upon compression or division, excepting that in the latter case only the distal part of the divided nerve undergoes the pathological change, while in the former it is the entire nerve that is affected. And in the changes described in multiple neuritis the same progress of events and the same varieties of determination are observed.

When the cases of multiple neuritis are examined from a pathological standpoint, several varieties may be distinguished. In some of the cases, and these are the most numerous, there is a parenchymatous inflammation in the nerve-fibre only visible to the microscope. At the outset of this inflammation the myelin sheath appears slightly swollen, is less homogeneous, and from a difference of refractive power is less translucent. It then becomes split up into segments of different length and form, the segmentation occurring preferably at the incisures of Schmitt, while the incisures at other parts disappear. Between these segments of myelin, a finely granular protoplasm is seen, in which

new nuclei are found. These nuclei probably are the cells of Rosenheim which have emigrated, although a few near the nucleus of the sheath of Schwann may be due to its division. In some fibres the axis cylinder may still be preserved. In others it is broken at the same places as the myelin. At the next stage of the process the changes are more marked. The myelin is now reduced to a series of small globules surrounded everywhere by granular protoplasm, and in this protoplasm the nuclei are now very numerous. The axis cylinder cannot be distinguished in the mass, as a rule, but occasionally a fine line is seen passing through the mass, which may be a remaining cylinder. The succeeding stage presents a different picture. While up to this time the size of the nerve-fibre has remained about normal and uniform, it is now seen to vary. At places the fibre is still wide and filled with a granular mass, at other places it is narrow, the mass having disappeared, leaving either a collapsed sheath, or a sheath containing only nuclei here and there. In a few such narrow fibres there seems to be an axis cylinder lying directly within the sheath of Schwann, and occasionally separated from it at various places by nuclei. But this appearance is rarely seen. As a rule, no trace of the axis cylinder remains. As any single fibre may show at some places constrictions, at other dilatations, the variations in its calibre is the most striking feature of this stage. In the terminal stage the calibre is uniform again, but is now everywhere reduced. The sheath of Schwann is empty, or contains only a little granular substance, and the nuclei are now less numerous than before. There is in fact only an atrophied tube with none of its original contents. These tubes lying side by side are folded and undulating, and appear like a strand of connective tissue.

These various stages of parenchymatous inflammation are to be seen in different fibres in the same specimen. Their appearance is identical with that observed in the course of degeneration of a nerve after compression, or after destruction of the spinal ganglion-cells. This has led such an accurate observer as Erb to advance the hypothesis that some slight changes in trophic cells in the spinal cord, not visible to the microscope, are present primarily, and that these changes are of a secondary nature. But this cannot be admitted.

It cannot but be admitted that the first class of cases of neuritis must be considered as due to a primary parenchymatous inflammation in the nerve-fibres. This form seems to be much more frequent in its occurrence than the first variety, and constitutes the lesion in the majority of the cases hitherto reported.

A second class of cases presents a different appearance.

In this class the mere inspection shows the nerve to have been the seat of pathological changes, for it is either congested, swollen, and lacking in lustre, or it is yellow and irregularly swelled by the accumulation of fat, or it is evidently reduced to a mere connective-tissue strand. Upon teasing the nerve it is at once clear, from its brittleness, that individual fibres are lacking in continuity and are changed in structure. And if it is examined under the microscope, the exudation of serum, and of lymphoid bodies, the great increase in the number of connective-tissue nuclei, the distended condition of the vessels, as well as the various appearances characteristic of nerve degeneration,

<sup>10</sup> Loc. cit., II., 42-47.

are clearly seen. Here the inflammation is either originally an interstitial inflammation or, more probably, a diffuse one. It is possibly that the degenerative processes in the nerves may have been due to the compression by the exuded products of inflammation within the nerve-sheath. . . .

It is to be noted that in both of these forms the pathological changes are always more intense in, and are occasionally limited to, the peripheral terminations of the nerves. The nerve-trunks may be slightly involved in their distal portions, but it is very rare to find any changes in them at their origin from the plexuses. And, as a rule, the spinal nerve-roots in cases of multiple neuritis are normal. In making autopsies upon such cases this fact is to be remembered, and the nerves are to be removed down to their finer branches in the muscles and fascia.

One additional pathological form must be mentioned, since it has been described by such a careful observer as Gombault.<sup>11</sup> It is the so-called segmental periaxillary neuritis. In toxic neuritis from lead poisoning, Gombault found that the degenerative process was not uniform in the entire length of a nerve-fibre. On the contrary, entirely normal segments alternated with the degenerated segments in the nerves. . . .

While it is, of course, impossible to describe definitely, the process which goes on to complete regeneration of nerves in multiple neuritis, there is no reason to suppose that it differs in any way from that observed in experimental lesions.

The time required for the completion of the process will depend upon the severity and extent of the degeneration. When that is slight the recovery may be rapid, cases having been reported where a total cure took place in two months. As a rule, however, it is a slow process. The large majority of the cases on record required over four months for the complete regeneration, and is not a few cases from ten to sixteen months elapsed before the condition of the nerves was proved to be normal by the total disappearance of all symptoms.

With the end of 1883 we may consider the third stage of pathological discovery in the history of multiple neuritis as terminating. At that date the symptoms of the disease had been recognized as constituting a distinct clinical picture; hypothetical lesions in the spinal cord had been abandoned, and the exact pathology of the disease had been ascertained. Since 1883 the final period in the development of knowledge of the affection has been in progress.

About one hundred cases, of varying degrees of severity, have been observed (see Bibliography). The lesions described have been confirmed in all their details. The symptoms arising in the course of the disease have been subjected to careful analysis, together with their varied modes of combination. Certain diseases hitherto considered of spinal origin are found to be due to peripheral disease. Thus it has been discovered that a form of ataxia may occur from multiple neuritis of alcoholic or arsenical poisoning, which closely resembles and was formerly confounded with tabes; also, that some cases supposed to be anterior poliomyelitis must now be differently named. And as physicians review their records, they find that former diagnoses require revision in the light of new discoveries, and that greater circumspection is to be

exercised in differentiating spinal from peripheral affections. The grounds for such differential diagnosis will require attention in the next lecture. And, what is perhaps of greater importance, the fact has been elicited that some combinations of symptoms formerly supposed to be without a pathological basis, some of the so-called peripheral neuroses, really belong to this class of diseases. At present we have only time to allude to one or two forms of peripheral neuroses, which must be removed from that unsatisfactory category of disease and be considered as peripheral neuritis.

And the first of these is the affection termed numb-fingers. This was first described by J. J. Putnam, of Boston, but met with instant recognition from neurologists and from general practitioners all over the world. It is a disease chiefly seen in women between the ages of forty and sixty, usually associated with dyspeptic or uterine symptoms, but entirely independent of them. It begins as a tingling sensation in the ends of the fingers, felt at night, and sufficiently annoying to keep the patient awake. It then extends to the entire fingers, and may invade the hand, and is felt by day as well as by night. The fingers are so numb that all finer acts become impossible; the patient can no longer sew or knit, cannot be sure of holding anything securely, and finds herself unable to perform any delicate movement. Sometimes a slight degree of anæsthesia and analgesia can be discovered by ordinary tests, but often the disturbance of sensation is purely subjective. There is rarely any incoördination, and paresis is usually wanting. It may develop in the feet as well as in the hands, making walking more or less disagreeable, and adding to the discomfort of the patient. The affection is of indefinite duration, often subsiding quickly under treatment, sometimes baffling all attempts to arrest it. For a time it was considered a purely functional affection, then a spinal-cord disease, but now, in the light of the parallelism between the symptoms mentioned and those which are characteristic of multiple neuritis, we cannot but consider it a slight form of this disease.

The second of the peripheral neurosis which must be referred to peripheral neuritis is intermittent paralysis. Cases of sudden paraplegia, lasting a few hours and passing off as rapidly as it appeared, have been observed too frequently to admit of any doubt. Westphal has described such a case in which no cause could be found. Gibney reported some cases presumably due to malaria. Others have thought the disease of functional character, either central or peripheral. But in the light of recent observations upon infectious cases of multiple neuritis it becomes evident that these sudden, transient paraplegias find their adequate explanation in such an affection.

And, lastly, there are numerous cases of indefinite nervous symptoms, pain of various kinds, formication, and odd sensations grouped under the indefinite term numbness, flashes of cold and heat accompanied by actual changes in the temperature of the part, or only by apparent vascular irregularities, slight spasms, or tremors; functional weakness, with sense of fatigue not reaching the grade of paresis, and many equally obscure manifestations of disturbed function in various parts of the body, which reach their best explanation in the theory of multiple neuritis.

And since it was one of the objects of the founder of this lectureship to determine the true nature of such

<sup>11</sup> Gombault. *Archives de Phys.*, 1873, p. 592; also *Arch. de Neurol.*, 1, 1.

peripheral neuroses, it is with the greater interest that we examine the disease to which they must be assigned.

In the present stage of progress in the history of neuritis much attention is being given to the etiology of the disease. Cases which, from their causation, were formerly separated, are now found to be closely allied in their pathology. Thus the forms of paralysis occurring after the ingestion of various poisons, such as arsenic, lead and alcohol, are known to be due to a common pathological change. The various kinds of sensory and motor disturbance occurring as complications of the acute diseases, diphtheria, variola, typhoid and typhus fevers, and severe malarial fever, are traced to a lesion in the peripheral nerves. Tuberculosis is known to predispose to neuritis, and many cases formerly supposed, without question, to be produced by central or meningeal affections of a tubercular character, are now assigned to a peripheral cause. It is a question whether syphilis will cause a simple degenerative neuritis, but syphilitic affections of the nerves are easily recognized and well known. Nor can the nervous system escape the action of those micro-organisms which are now recognized as the constant cause of many diseases. There is an epidemic form of multiple neuritis, fortunately not prevalent in this country, but occasionally imported here in the form of sporadic cases, known as kakke, or beriberi, the bacillus of which has recently been discovered and cultivated. And, lastly, there is a class of cases, of supposed spontaneous origin, in which cold or overexertion are assigned as causes, but which need further investigation in regard to their etiology.

It is evident from this array of causes that several conditions, formerly separated from one another because of the different circumstances of their occurrence, are really forms of the same disease. But while they may be brought together upon a pathological basis, and while all have many symptoms in common, each of the forms of neuritis presents certain distinct features.

## Original Articles.

### THOUGHT-TRANFERENCE.<sup>1</sup>

BY MORTON PRINCE, M.D.,

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I HAVE been asked, for the benefit of those who have not followed the experimental investigations in thought-transference, and in view of the present popular interest taken in professional "mind-reading," so-called, to give an account, to-night, of the work that has been done in the investigation of these phenomena, and of the results thus far reached. I cannot, therefore, do much more than give a general *résumé* of the subject, as it now stands.

The experimental investigation of mind-reading, which was first systematically carried out in England, grew out of the popular interest taken in the well-known "willing game." The principle of this game is that one or more people will that another person shall do something — such as touch some object in the room, or take something from a given place, and put it in another place.

The willers are usually in contact or in close

contiguity to the one who is willed. It is well known that most of these performances are done by voluntary or involuntary pushing on the part of the willers. Still there remains over a small residue of phenomena, which it was thought seemed to point to something more, and to be sufficiently well attested and important to become the legitimate object of serious scientific investigation. Accordingly, in the early part of 1882, a number of gentlemen well known in England for their scientific, literary, and other attainments, formed the society known as that for Psychical Research. Its object was to provide a machinery and means for the systematic study into all such phenomena as are commonly designated by the terms, mesmeric, psychical, spiritualistic, etc.

The subject of mind-reading, afterwards called thought-transference, was given to such men amongst others, as Prof. W. F. Barrett, Edmund Gurney, F. W. H. Myers, Prof. Balfour Stewart, and Prof. Alfred Hopkinson. It will thus be seen, at the outset, that the work has not been undertaken by a lot of irresponsible and uncultured impressionists, but by men of unquestioned intellectual capacity and integrity.

By mind-reading is meant the power of one person directly inducing an idea, similar to his own, in the mind of another person, without conveying any information through any one of the five senses. This definition, it will be observed, makes the person whose mind is read the *active* agent, while the mind-reader, the one who becomes conscious of the other's thoughts, is the *passive* agent. This is the more correct interpretation of the phenomena than the usual inverse definition, as it emphasizes the active and essential part played by the person whose thoughts are transferred — a point often lost sight of.

It appears that previous to the experiments undertaken by the Society, the attention of a Rev. Mr. A. M. Creery, B.A., having also been called to the phenomena of the well-known "willing game," he determined to investigate it, with the idea of ascertaining whether any of the results were due to the simple action of willing, as well as to involuntary pushing. "For this purpose," to use his own words, "I employed four of my children, between the ages of ten and sixteen, all being in perfectly robust health, and a maid-servant about twenty years of age. Each went out of the room in turn, while I and the others fixed on some object, which the absent one was to name on returning to the room. After a few trials, the successes preponderated so much over the failures, that we were all convinced there was something very wonderful coming under our notice. Night after night, for several months, we spent an hour or two each evening in varying the conditions of the experiments, and choosing new subjects for thought-transference.

"We began by selecting the simplest objects in the room; then chose names of towns, names of people, dates, cards out of a pack, lines from different poems, etc.; in fact, any thing or series of ideas that those present could keep steadily before their minds; and when the children were in good humor, and excited by the wonderful nature of their successful guessing, they very seldom made a mistake. I have seen seventeen cards, chosen by myself, named right in succession, without any mistake. We soon found that a great deal depended on the steadiness with which the ideas were kept before the minds of 'the thinkers,'

<sup>1</sup> Read before the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, December 8, 1886.

and upon the energy with which they willed the ideas to pass. . . .

"The distance between the thinkers and the thought-readers is of considerable consequence. As a rule, the best results take place when this distance is not more than a yard or two; but under very favorable mental conditions, we have often had four or five cards named right in succession, while the thought-reader was placed in a room on the landing above that in which the thinkers were assembled."

So far, however extraordinary the phenomena appeared to be, they were of course of no value as evidence, on account of the want of rigor in the conditions under which the experiments were performed. Mr. Creery, however, communicated the facts to Professor Barrett, who under more stringent conditions repeated the experiments. Later they were further investigated by Mr. and Mrs. Sedgwick, Prof. Balfour Stuart, Prof. Alfred Hopkinson, and the committee on thought-transference. A large number of experiments were performed, while every possible precaution, which the committee could devise, was taken to prevent any information being acquired by the subjects through any one of the senses, including under this, of course, collusion. It will be impossible for me, this evening, even if desirable, to describe with any diffuseness the large number of experiments that have been made, and shall limit myself to a general description of the methods employed, and a few examples of the results arrived at. It should be stated, as bearing to a limited extent on the question of intentional fraud that Mr. Creery is vouched for as a man "of unblemished character, and whose integrity indeed has, it so happens, been exceptionally tested." This would not however bear upon the question of intentional deception on the part of the children.

The method pursued in the inquiries were as follows:

The places where the experiments were performed varied; sometimes being at the house of Mr. Creery, sometimes in other rooms chosen by the experimenters. The usual practice was to send a child out of the room. The name of an object, such as a penknife, box of chocolate, or a number, or a playing-card drawn at random from a pack, or a *fictitious* name was written upon a piece of paper and silently shown to those present. The child was then recalled, by one of the experimenters. From this time not a word was allowed to be spoken, save "Right" and "No" in response to the guesses of the child, who stood near the door with downcast eyes. No one was allowed to enter or leave the room. No other sound, than the above responses or movements by any one, were permitted. Sometimes the rest of the family remained in the room and sometimes they were excluded; sometimes they were shown the name of the thing to be guessed and sometimes not. The results by this did not appear to be essentially altered in either case. As an example the following may be cited.

Easter, 1881, present: Mr. and Mrs. Creery and family, and W. F. Barrett, the narrator. "One of the children was sent into an adjoining room, the door of which I saw was closed. On returning to the sitting-room and closing the door also, I thought of some object in the house, fixed upon at random; writing the name down, I showed it to the family present, the strictest silence being preserved throughout. We then

all silently thought of the name of the thing selected. In a few seconds the door of the adjoining room was heard to open, and after a very short interval the child would enter the sitting-room, generally speaking with the object selected. No one was allowed to leave the sitting-room after the object had been fixed upon; no communication with the child was conceivable as her place was often changed. Further, the only instructions given to the child were to fetch some object in the house that I would fix upon, and together with the family, silently keep in mind to the exclusion, as far as possible, of all other ideas. In this way I wrote down, among other things, a *hair-brush* (It was brought); an *orange* (It was brought); a *wine-glass* (It was brought); an *apple* (It was brought); a *toasting-fork* (Failed on the first attempt, a pair of tongs being brought, but on a second trial it was brought). With another child, (among other trials not here mentioned), a *cup* was written down by me (It was brought); a *saucer* (This was a failure, a plate being brought; no second trial allowed. The child being told it was a saucer, replied, 'That came into my head; but I hesitated, as I thought it unlikely you would name saucer after cup, as being too easy'.")

#### EXPERIMENTS MADE APRIL 13TH, 1882.

##### Objects to be Named.

A white penknife.—Correctly named, with the color, the first trial.

Box of almonds.—Correctly named.

Threepennypiece.—Failed.

Box of chocolate.—Button-box said; no second trial given.

Penknife hidden.—Failed to name the place.

##### Numbers to be Named.

Five.—Correctly given the first trial.

Fourteen.—Failed.

Thirty-three.—54 (No), 34 (No), 33 (Right).

Sixty-eight.—58 (No), 57 (No), 78 (No).

##### Fictitious Names to be Guessed.

Martha Billings.—Failed; Biggis was said.

Catherine Smith.—Catherine Shaw was said.

Henry Cowper.—Failed.

##### Cards to be Named.

Two of clubs.—Right first time.

Queen of diamonds.—Right first time.

Four of spades.—Failed.

Four of hearts.—Right first time.

King of hearts.—Right first time.

Two of diamonds.—Right first time.

Ace of hearts.—Right first time.

Nine of spades.—Right first time.

Five of diamonds.—Four of diamonds (No), four of hearts (No),

five of diamonds (Right).

Two of spades.—Right first time.

Eight of diamonds.—Ace of diamonds said; no second trial given.

Three of hearts.—Right first time.

Five of clubs.—Failed.

Ace of spades.—Failed.

As comments on these experiments the committee

remarks:

"Now if we apply to these two sets of experiments the sources of error enumerated by Dr. Beard, the conclusion, we venture to think, is inevitable that we have here very strong evidence in favor of a class of phenomena entirely new to science. Involuntary actions, such as movements of the lips, etc., could not reach the child when she was out of sight and hearing, as was the case in the first series of experiments. *Conscious or unconscious deception* on the part of the subject does not apply, as the thing wished for was selected and written down by one of us. *Collusion* by a third party is avoided by the fact that none were allowed to enter or leave the room until we had selected the thing to be guessed and in the second series of experiments

riments by the exclusion of all members of the family either from the room or from participation in the requisite knowledge; whilst *chance* and *coincidence* we have already dealt with. In many trials, such as the guessing of fictitious names, made up by us on the spur of the moment, the chances against success were, of course, incalculable; yet, as will be seen by the following record taken from our last day's experimenting, these names were guessed with as much ease as cards, where the chances against success were far less."

Among the experiments selected April 17th, 1882, was the guessing of fictitious names. The results were as follows:

Words chosen.	Words guessed.
William Stubbs.	William Stubbs.
Eliza Holmes.	Eliza H—
Isaac Harding.	Isaac Harding.
Sophia Shaw.	Sophia Shaw.
Hester Willis.	Canandra, then Hester Wilson.
John Jones.	John Jones.
Timothy Taylor.	Tom, then Timothy Taylor.
Esther Ogle.	Esther Ogle.
Arthur Higgins.	Arthur Higgins.
Alfred Henderson.	Alfred Henderson.
Amy Frogmore.	Amy Freemore, then Amy Frogmore.
Albert Snelgrove.	Albert Singrore, then Albert Grover.

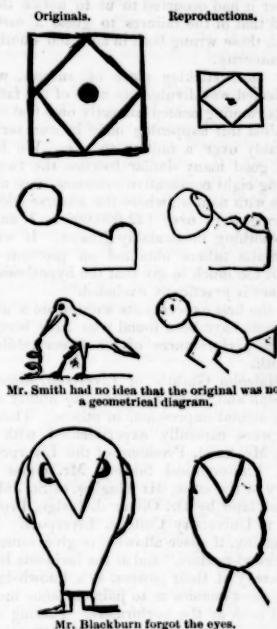
After this, a Mr. Smith of Brighton was found, who in conjunction with Mr. Blackburn, a member of the society, was able to do what had been done by the Creery children. In addition, however, it was found that Mr. Smith was able to reproduce drawings of mental pictures in the mind of Mr. Blackburn. In the earlier experiments of this kind, Mr. Smith held Blackburn's hand for a few moments, and then releasing it while still blindfolded, drew his own impression of the figure. The original, of course, had been previously determined and drawn by the committee and shown by them to Blackburn. Later the conditions were made still more stringent, no contact at all being allowed. The *modus operandi* is described as follows: (162)

"The percipient, Mr. Smith, is seated blindfolded at a table in our own room; a paper and pencil are within his reach, and a member of the committee is seated by his side. Another member of the committee leaves the room, and outside the closed door draws some figure at random. Mr. Blackburn, who so far has remained in the room with Mr. Smith, is now called out, and the door closed; the drawing is then held before him for a few seconds, till its impression is stamped upon his mind. Then, closing his eyes, Mr. Blackburn is lead back into the room and placed standing or sitting behind Mr. Smith at a distance of some two feet from him. A brief period of intense mental concentration on Mr. Blackburn's part now follows. Presently, Mr. Smith takes up the pencil amidst the unbroken and absolute silence of all present and attempts to reproduce on paper the impression he has gained. He is allowed to do as he pleases as regards the bandage round his eyes; sometimes he pulls it down before he begins to draw, but if the figures be not distinctly present to his mind, he prefers to let it remain on, and draws fragments of the figure as they are perceived. During all this time, Mr. Blackburn's eyes are generally firmly closed (sometimes he requests us to bandage his eyes tightly as an aid to concentration), and except when it is distinctly recorded he has not touched Mr. Smith, and has not gone in front of

him, or in any way within his possible field of vision since he re-entered the room.

"When Mr. Smith has drawn what he can, the original drawing, which has so far remained outside the room, is brought in, and compared with the reproduction. Both are marked by the committee and put away in a secure place. The drawings and reproductions, given at the end of the Report are in every case fac-similes of the untouched originals, from which they have been photographed on the wood blocks."

A few examples of these drawings with the reproductions I have attempted to reproduce here. [A number of diagrams were shown the audience a few of which are printed here.]



In order to determine whether the results thus far reached might be attributed to chance, they were submitted to mathematical calculation. The results thus calculated have been arranged in tabular form, I have had them copied here upon this blackboard. You will see that the probabilities are immensely against the results being due to blind chance and in favor of there being some other active agent. In some cases you will see that the probabilities against chance are almost infinite. Referring to this, the Committee made the following comments:

"The outline of results during the present investigation, which extended over six days, stands as follows: Altogether 382 trials were made. In the case of letters of the alphabet, of cards, and of numbers of two figures, the chances against success on a first trial would be naturally 25 to 1, 51 to 1, and 89 to 1, re-

spectively; in the case of surnames they would, of course, be indefinitely greater. Cards were far most frequently employed, and the odds in their case may be taken as a fair medium sample; according to which out of the whole series of 382 trials, the average number of successes at the first attempt by an ordinary guesser would be  $7\frac{1}{2}$ . Of our trials 127 were successes on the first attempt, 56 on the second, 19 on the third, making 202 in all. On most of the occasions of failure, 180 in number, second trials were made; but in some cases the guesser professed inability, and declined to make more than one, and in others we allowed three; no trial beyond the third was ever allowed. During the last day or two of trial, after it had occurred to us to notice the point, we found that of the failures to guess a card at the first trial, those wrong both in suit and number were a small minority.

"Our most striking piece of success, when the thing selected was divulged to none of the family, was five cards running named correctly on a first trial; the odds against this happening once in our series were considerably over a million to one. We had altogether a good many similar batches, the two longest runs being eight consecutive successes, once with cards and once with names; where the adverse odds in the former case were over 142,000,000 to 1, and in the latter something incalculably greater. If we add to these results others obtained on previous visits, it seems not too much to say that the hypothesis of mere coincidence is practically excluded."

Since the first experiments were made a number of other people have been found who have been able to repeat the performances of the Creery children and Mr. Smith.

Mr. Malcolm Guthrie, of Liverpool, discovered in Miss Relp and Miss Edwards the ability to reproduce the mental impressions of others. These young women were carefully experimented with by Mr. Guthrie, Mr. Steel, President of the Liverpool Literary and Philosophical Society, Mr. James Birchall, Secretary of the same, Mr. Hughes, of St. John's College, and later by Dr. Oliver J. Lodge, Professor of Physics in University College, Liverpool. It would be interesting, if space allowed, to give some account of the "mind-readers," and of the incidents leading to the discovery of their powers, as a knowledge of the circumstances enables us to judge in some measure of the good faith of the performers. Passing over this I can only say that the experimenters apparently, judging by the published reports, took every conceivable precaution to guard against fraud, and unconscious deception.

The fact here should not be allowed to escape notice, that here we have to do with an entirely different and independent set of experimenters, as well as performers. The chances that there were sources of fallacies which escaped the first experimenters are lessened by their being undetected by a second independent set of observers.

The following gives an idea of the results obtained with guessing objects. The conditions of the experiments as described were generally very stringent, and in the ones here quoted no contact was allowed. They include all the experiments made on the particular date given, April 9th, 1883. Present: Mr. Guthrie, Mr. Birchall, Miss R., Miss R—d, Miss J., Miss E., and Miss C. Percipient, Miss R.

## Objects.

## Answers.

- A gold cross.—It is yellow. . . it is a cross.  
A red-ivory chess knight.—It is red . . . broad at the bottom . . . then very narrow . . . then broad again at the top. It is a chessman. Asked to name the piece, said she did not know the names of the pieces.  
A half-crown.—It is round . . . bright . . . no particular color. . . silver . . . it is a piece of money . . . larger than a shilling but not as large as . . . The percipient was unable to say more.  
A diamond of pink silk on black satin.—Light pink . . . cannot make out the shape . . . seems moving about. N.B.—The object was held somewhat unsteadily by Mr. G.

As it is the successes that are of particular interest, I have selected the following from a large number of trials at different sittings.

## Objects.

## Answers.

- An egg.—Right.  
A penholder with thimble inverted on the end.—A column, with something bell-shaped.  
A small gold earloop.—Round and bright . . . round and bright . . . with loop to hang it by.  
A gilt cross.—Right.  
A yellow paper-knife.—Yellow. . . Is it a feather? It looks more like a knife with a thin handle.  
A pair of scissors standing open and upright.—Is it silver. . . No—it is steel. . . It is a pair of scissors standing upright.  
A diamond of blue silk on black satin.—It is a diamond.  
An apple.—Right.  
An orange.—Right.  
Letters G. D. V.—Right.  
A key first looked at and then withdrawn and thought of only.—Right.  
A plain gold cross, imagined only, not seen.—Right.  
Mr. J's. gold chain and pendant, imagined only.—Right.  
A pineapple, imagined only.—Right.  
Letter C.—Right.

These are but samples of the results of a large number of experiments which were continued on a number of occasions. Of course there were a considerable number of failures; on the other hand, some of the successes were very brilliant. A number of experiments were also made in reproducing drawings after the manner of Mr. Smith, these were very successful. A few of these, perhaps the most striking, are reproduced here that a better idea may be obtained of the degree of success attained.

Experiments were also made in the reproduction of the sensations of *taste*, *smell*, and *pain*, with equally successful results.

It is proper to state, as it bears on the responsibility and good faith of the experimenter, that Mr. Malcolm

Originals.

Reproductions.

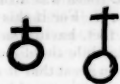


Mr. Guthrie and Miss E. No contact.



Mr. Hughes and Miss E. No contact. Miss E. said, "It is like a mask at a pantomime," and immediately drew as above.

Original at left.



Original at top.



Mr. Guthrie and Miss E. No contact. Miss E. almost directly said, "Are you thinking of the bottom of the sea, with shells and fishes?" and then, "Is it a small or a fish?" — then drew as above.

Guthrie is represented as holding "an important position in Liverpool, being a Justice of the Peace, and an active member of the governing bodies of several public institutions, among others of the new University College; that he is a severe student of philosophy, and the author of several works bearing on the particular doctrines of Mr. Herbert Spencer." At the request of Mr. Guthrie, Professor Oliver J. Lodge, D.Sc., later took part in the experiments, superintending the conditions and modifying the details. In his reports he confirms all the previous results.

Since this a number of people in different parts of England have given accounts of similar experiences and claimed for them evidence of true thought-transference. But the testimony in these cases is not sufficiently full or well attested to give the experiments the same weight that may be given to those just discussed.

Such are the facts which we have to consider. Then remains the question, "What conclusions do they admit of?" What interpretation is to be put upon them. The distinction between the facts and the interpretation of those facts cannot be too strongly emphasized. We cannot be too often reminded of this distinction; it must constantly be borne in mind. Admitting the results thus far obtained to be true, does it necessarily follow that the explanation is to be found in a direct transference of thought? Is there any other explanation possible; and is it not logical to admit the facts and deny the conclusions? Let us review the evidence as it at present stands:

*First.* We have as experimenters a number of gentlemen noted for their integrity, and whose standing would exclude all intention at deceit on their own part.

*Second.* The experimenters, after considerable previous experience, arrange the conditions of the experiments, so as to exclude by every possible device all possibility of communication by the ordinary channels, the senses (including collusion.) They are allowed to arrange the conditions according to their own option, in such a way as to test in the most stringent manner the phenomena under investigation. In this way the experiments differ essentially from those made with ordinary professional spiritualists and mind-readers. Under those stringent conditions, results are obtained showing that the thoughts of one mind have been communicated in some way to another.

*Third.* The experimenters conclude that the communication has been made by direct thought-transference.

Regarding the second count, the evidence to most people, at any rate, to such as have studied the reports of the investigations thus far made, will seem overwhelmingly in favor of the accuracy of the alleged facts; but it may be logically urged that opinions founded from *reported accounts* of experiments are of little value; the more faultless the report, the more certain that opinions founded on it are but the repeti-

tion or reflex of the opinions of the original experimenters, which alone are of value. Opinions founded on it are like soldiers in a theatre, who, being made to go round in a circle, appear to be many-fold more numerous and effective than they are.

It is only the opinions of the experimenters themselves which are of value. Thus far, the number of subjects who have given successful results have been comparatively small, and the observers likewise limited. However accurate the latter may be, a person cannot be accused of extreme skepticism who should urge, in view of the extreme rarity of a keenness of intellect requisite for accurate observation, as well as the unfamiliar nature of the phenomena, that the observers may have overlooked sources of fallacies that may yet appear; and it is only by multiplying the observers, as well as the subjects, that the phenomena themselves can be established beyond possibility of doubt.

Regarding the third count, the conclusions of the Committee, it may be said in their favor that there is no inherent improbability against them. We know that nerve-force, in many ways, manifests properties similar to those of electrical-force. We know that if a current of electricity be passed through a wire in the neighborhood of another closed circuit of wire, the first current will *induce* a second current in the second wire. Now there is no reason why, in a similar way, the neural currents of the brain should not *induce* similar currents in homologous centres in a neighboring brain under favorable conditions. To some minds, indeed, it may seem strange if they didn't.

Similar analogies may be found in a magnet being affected by neighboring iron or another magnet; in the sun's action upon the earth; and in a globe set into vibration by the vibrations of another globe.

In the second place, admitting the phenomena, it may be said that, in the absence of all communication by the senses, direct thought-transference is the most rational and obvious explanation. But, on the other hand, it may be urged that this explanation seems more obvious merely because of the limitation of our knowledge, and that if we had a more intimate acquaintance with psychical phenomena, we might find other as yet unknown channels by which information might be unconsciously conveyed from one mind to another; or that an explanation might be found in laws of thought by which two minds, under similar conditions, should pursue the same course. At any rate, this last possibility has not as yet been sufficiently worked out.

If called upon to summarize the evidence as it stands, I should say that: *First*, all the evidence that we possess, such as it is, goes to prove that certain persons, under certain favorable conditions, can become cognisant of the thoughts of another without any communication by the senses. *Second*, that the best *working* hypothesis that we possess is in favor of direct thought-transference as an explanation. *Third*, *à priori*, there is nothing inherently impossible or improbable in the hypothesis. *Fourth*, the subject must be considered as still *subjudice*, and needs further investigation to settle the question beyond possibility of doubt.

Before dismissing the subject, I wish to say a few words in regard to the nature of the evidence before us: There are two objections or arguments which are commonly employed against thought-transference: One is that similar claims have been made almost

from time immemorial by spiritualists, clairvoyants, and the like; that all sorts of equally extraordinary performances have been done by these sort of people; but as each has been investigated, it has broken down and failed to stand the tests of rigid examination; or if not, that no thorough examination has been allowed. Furthermore, the performances of professional jugglers, like Herman and Heller, are cited as evidence, showing how easy it is to impose upon even the clearest observer.

To my mind, objections of this sort are most illogical and unscientific. There is not the slightest parallel between the two cases. In the first place, no one can find the slightest similarity between professional mediums and the earnest, conscientious, responsible people who have conducted the investigations, many of them skilled by profession in experimental methods of research; nor even between the former and the "mind-readers," like the Liverpool young ladies, Miss R. and Miss E., and the Creery children.

In the second place, no physical experiments in the laboratory have been more under the control of the chemist and the physiologist than have these. The subjects have given themselves up to the experimenters, not occasionally and fitfully, but day after day. Any and every sort of condition have been cheerfully acquiesced in and imposed. They have seemed, judging by the reports, to take the same interest in studying the question as any one else. Nor are the conditions of the experiment apparently complex. It seems as if the only essential conditions requisite are to see that the subject or percipient does not get any clue to the agent's thought through any one of the five senses—touch, taste, smell, sight, and hearing.

The first three are easily excluded. It would seem as if the latter two could easily be. No paraphernalia are used; no dark closets, no strange rooms; no attempt to regulate the experiment. The subjects, too, in no case have been trained professionals, and, in one case, only children. It seems strange, at first sight, that so many adult intelligences could be deceived under such conditions by such youthful minds. The experiments, too, have not been carried out by one set of people only; on the contrary, the same subjects and different subjects have been examined by independent observers, and each has confirmed the results previously obtained.

The second objection, referred to as usually raised, is that the existence of thought-transference is so inherently improbable that the chances are far greater that there has been some error in the observations than that the hypothesis is true. This objection, in the first place, overlooks the distinction between the facts and the interpretation of the facts which I have already insisted upon. Further, in my judgment, it seems to me far from the truth. Whether I admit thought-transference or not, I see no valid ground on which to base such an assumption nor, so far as I know, has any been given. If thought-transference directly contradicts some well-established law, as perpetual motion would that of gravitation, then it might be said that it was inherently improbable. But no established fact or law is controverted by it. If, again, the theory of thought-transference maintained that there was a constant influence of one mind upon another or others, that all minds act and interact upon one another in the course of the ordinary affairs of life, or that complicated processes of thought

were transferred from one individual to another, then it might with reason be said that there was an inherent improbability against the theory. For if this were the case, the probability of the fact, having so long escaped detection, would be small, while the disastrous consequences to society would be so great that it might be doubted whether progress in civilization could go on.

But the theory is far less extensive than this. The conditions under which thought-transference can take place, if at all, are very limited, while the ideas themselves are very simple. The number of people, too, who possess the alleged faculty is comparatively very small. It is necessary that the agent, who is as essential for success as the percipient, shall concentrate his attention, to the exclusion of all other thoughts, on a particular idea. If he cannot do this, the experiment will probably fail. The percipient must likewise put himself into a state which may be called expectant attention, excluding as far as possible all consciousness of surroundings. The idea to be transferred must be simple, such as a mental picture of an object, not too complicated in structure, a number, a taste, or a pain. The more complicated the idea the greater the liability of failure, complete or partial. It seems to me that one of the strongest points in favor of the theory is the failures themselves. They are just what would be expected under the theory. A careful analysis of the failures will show, I think, that their character comports exactly with what would be predicted from the theory itself. Space and time will not allow me to go into this here. But, in conclusion, we may say the experiments furnish two classes of facts, namely, successes and failures, both of which furnish strong affirmative evidence for the theory. But still in spite of this strong presumptive evidence, it is given by too few experimentally, and the subjects have been too sparse to justify us in accepting the hypothesis without further confirmation.

It may not be out of place before concluding, to caution you not to confuse these phenomena with those of muscle-reading as performed by so-called professional mind-readers. The latter class of experiments have of late been so exhaustively discussed that it is not worth while to more extensively refer to them here. Those who are interested will find in the *Nineteenth Century* for December, 1886, a very entertaining article by Mr. Stuart Cumberland, a very successful professional, who has retired from the business. He now furnishes the public with a very complete explanation of how the tricks are done.

## RECENT PROGRESS IN LEGAL MEDICINE.

BY F. W. DRAFER, M.D.

### WOUNDS OF THE GENITAL ORGANS IN THEIR RELATION TO CRIMINAL ABORTION.

LESSER<sup>1</sup> has observed eleven cases of wounds of the uterus or vagina, produced by instruments used to induce abortion. In these eleven cases, there were thirty-eight lesions, as follows: eight wounds of the vagina, twenty of the cervix, or of the body of the womb adjacent to the cervix, ten of the remainder of the uterine body. In German and other medical literature of the last twenty years, Lesser found mention of twenty-eight additional cases, in which the lesions involved the vagina seven times, the cervix and lower

<sup>1</sup> Vierteljahrschrift f. gerichtl. Med. N. F. xlv, page 1.

zone of the uterine body nine times and the rest of the body of the womb twelve times.

The wounds observed by Lesser were lacerations or punctures except in four instances of contusions of the vagina and cervical mucosa. He raises the question whether the expulsion of the fœtus is expedited to a greater degree when the wounds involve the body of the womb than when they affect the cervix and vagina only. His notes in eleven cases favorable for a determination of the question show that neither the seat nor the extent of the injuries has any constant relation with the rapidity of the abortion or with the energy and frequency of the uterine contractions. The interval between the operation for the abortion and the expulsion of the fœtus was eight hours in one case, where punctures and contusions were found in the upper part of the body of the womb; twelve to sixteen hours with a perforating wound near the fundus of the organ; twenty-four hours with a wound of the posterior wall of the body of the womb; twenty-four to forty-eight hours with another wound of the body. In the cases of cervical lesions only, the interval was from one to nineteen days; where the vagina alone was involved, the period of delay varied from two to five days.

Lesser remarks that the rapidity of the abortion is especially controlled by a perforating puncture of the ovum and by the extent to which the membranes are torn; and that the lesions of the womb or vagina which do not involve the uterine contents doubtless play a secondary part only. He mentions the case of a multipara who at about the fourth month of her pregnancy submitted herself to an operation for an abortion which produced a deep punctured wound of the cervix; the fœtus was not expelled till the nineteenth day, although there had been from the sixth day inflammation of the external genitals, with swelling and tenderness of the abdomen and other signs of peritonitis.

Lesser declares, also, that the presence and the extent of wounds have no influence upon the interval between the operation and the death when the abortive procedures result fatally. In the cases of wounds of the womb, he notes the death as occurring four, seven, nine, twelve, thirteen, nineteen and twenty-two days and, in one case, more than a month, after the operation; while in cases where no traumatism was produced, the death followed on the sixth, ninth, twelfth, thirteenth, twenty-seventh and thirty-first day. These two series of cases are regarded as properly comparable, because the cause of death is invariably puerperal fever.

#### WATER IN THE STOMACH AS A SIGN OF SUBMERSION DURING LIFE.<sup>2</sup>

A man's dead body was found in a ditch and it was suspected that the death was due to criminal violence. The autopsy disclosed the following, among other appearances: a contusion in the left temporal region; another contusion on the right cheek; three short excoriations on the left side of the neck and two on the right, between the larynx and the sterno-mastoid muscle, with extravasation of blood beneath them; the lungs fully distended, emphysematous, of purple color, with deep-seated hæmorrhages of considerable size, but without water or froth in the air-passages

and without injection of the mucous membrane; the right cavities of the heart distended with dark, liquid blood, and the liver likewise engorged. The stomach was filled with food floating in a quantity (from 300 to 400 grammes) of turbid fluid without any odor of alcohol, or beer, or coffee. Among the negative data noted were the absence of froth from the nostrils and mouth, the unsodden state of the hands, the normal appearance of the eyes, the natural position of the tongue, and the unaltered condition of the brain and spinal cord. The inspector, Dr. Duriau, formulated his opinion that the deceased came to his death by manual strangulation, after an unsuccessful attempt to destroy him by submersion. There were, he believed, sufficient evidences of the asphyxia by strangulation; there was room for question relating to the attempt at murder by drowning. The air-passages did not present a trace of froth, a sign which is justly regarded as of the highest value. The body had been in the water only seven hours and the liquid in the stomach, while having no resemblance to the ordinary table-drinks, was like the water in the ditch. In the expert's opinion, this water was swallowed during an attempt to drown the deceased; in support of this belief, Dr. Duriau cites "the well-established fact" that animals when held under water swallow considerable quantities of the fluid when the passage to the stomach is clear.

The theory thus formulated by the medical inspector was fully confirmed by the confession of the two culprits at their trial. They said that they first struck the deceased on the head and partially stunned him. They then threw him into the ditch and tried to hold him there; but he recovered sufficiently to resist their efforts and to escape from them temporarily. They seized him a second time, threw him down and strangled him with their hands; they then threw his dead body into the ditch.

Professor Brouardel, commenting on this case, when it was reported at a meeting of the Medico-Legal Society of France, said that, notwithstanding assertions to the contrary by many authors, it had been demonstrated experimentally that the fluid in which dead bodies are immersed does not penetrate, by gravitation, to the stomach.

(To be continued.)

### Therapeutical Memorandum.

#### CARLSBAD WATERS IN THE TREATMENT OF GOUT AND BILIOUSNESS.

BY J. B. FOTSDAMER, M.D., PHILADELPHIA.

Mr. J. B., aged sixty-nine, weight one hundred and ninety pounds, height five feet seven and one-half inches, had an attack of renal colic about twenty-two years ago. Oxalate crystals appeared in the urine. For a time his life was despaired of. Fifteen years ago he began to grow stouter, and had periods of depression. He consulted a physician at that time, who advised horseback exercise, otherwise serious results might follow. This instruction was not carried out. Eleven years ago, while being treated for a colles fracture, left, he had an attack of inflammatory rheumatism, confined to the right shoulder joint. Shortly after this he had another attack of renal colic,

<sup>2</sup> *Annales d'Hygiène Publique et de Médecine Légale*, January, 1896, page 83.

not as severe as the first one. Since 1860 he has had occasional attacks of muscular rheumatism, at times quite severe. In the early part of last year he began to complain of pain in the thumbs, which were swollen. He had pain in toes, but not so marked. The pain in the thumbs kept him awake at night. He takes very little exercise. Diagnosis: gout. He was put on a course of iodide of potassium, and the wine of colchicum seed, without beneficial results, although pursued for a long time. The salicylates were then tried, with the same result. Both the above methods were pursued in conjunction with a regulated diet. He was then placed on Carlsbad waters, the Sprudel being used. He drank three or four wineglassfuls a day, the water always being heated first. Beneficial results were noticed before beginning on the second bottle, as the patient was able to sleep at night. Improvement continued, and after six bottles had been used the pain was gone, and the swelling disappeared. At the present writing, six weeks after this treatment was begun, the patient is perfectly well, having used but ten bottles of the water. The only restriction placed upon Mr. B. J., while drinking the Carlsbad waters, was that he was not to drink any malt, and very little of spirituous liquors. This he did not carry out, as he drank about a glass of beer a day.

Mrs. S. B., aged forty-five, of full habit. Has had frequent attacks of biliousness. Was called in to attend her early last fall. Symptoms as follows: Complexion muddy; tongue coated with yellowish fur; bitter taste in the mouth; appetite poor; bowels constipated; some dizziness. Her feet are somewhat swollen. She was given small doses of calomel, followed by a saline purge. Bitter tonics were then administered. Jalap, fifteen grains, and cream of tartar, an ounce, were given about every four days, to keep the bowels open and to diminish the swelling of the feet. The patient improved, and I discontinued my visits. About six weeks later I was sent for, when I found a recurrence of the above symptoms. The patient is very stout. On physical examination I found the liver considerably enlarged. Carlsbad Sprudel water was ordered, in wineglassful doses four times a day, to be taken cold. The patient soon began to improve. After taking five bottles, is well. The swelling of the feet has disappeared, the bowels are regular.

Mr. S. H., aged forty; rather plethoric; exhibited symptoms similar to Mrs. B. Feet were not swollen, liver not enlarged. The same treatment was pursued, with a regulated diet; was well after taking three bottles.

### Reports of Societies.

#### MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOL- OGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

DECEMBER 8th, 1886. Meeting opened at 8.00 P.M., DR. F. I. KNIGHT, in the chair. The reading of the records of the last meeting was omitted. The Chairman announced that Dr. W. N. Bullard would show a case of great interest before the commencement of the regular programme as announced on the cards of invitation. Dr. Bullard presented the patient and described the condition as that of

#### SYMMETRICAL ATROPHY OF THE LOWER EXTREMITY WITH BACKWARD DISLOCATION OF THE TIBIA.

A full report of the case will be published later.

The paper of the evening was by DR. MORTON PRINCE, and was entitled

#### THOUGHT-TRANSFERENCE AND SO-CALLED MIND- READING.<sup>1</sup>

PROF. JOSIAH ROYCE was invited by the Chairman to open the discussion, and began his response by citing a suggestion recently made to him by a friend (Mr. Barrett Wendell of Cambridge), to the effect that thought-transference, so far from being in any way a supernatural gift, or an extraordinary acquirement in addition to those attained by the average of persons, may be a persisting trait of a former less cultivated condition of the human race, and may therefore be a rudimentary characteristic, and an indication of retrograde nature, rather than a sign of advance. The nature of the phenomena reminds one in fact of those traits of the lower animals which are often grouped under the common name of "instinct," and which are seen to a marked extent in birds, as well as in many families of the lower beings. In man, this may have long been an obsolete condition, having been replaced by the higher attributes of human acquirement, particularly by speech, which has thus supplanted the ruder and more imperfect modes of communication formerly carried on by other and less comprehensive methods of conveyance of ideas. This suggestion of Mr. Wendell's is seen to be faintly indicated in the researches of the English observers, and the challenge has gone forth, and must be met. We find ourselves in the presence of unknown phenomena, which demand scientific investigation at our hands. The labors of so many intelligent and conscientious investigators must produce some result, and it is more than likely that the subject will be brought nearer to a logical and reasonable explanation than is at present the case. If in a certain period of time, perhaps twenty or thirty years, no advance has been made, it may then be said that the attempt of science to unravel the mystery at present surrounding this subject, has been a failure. Among the recent additions to our means of forming a judgment, may be mentioned the book just published by Messrs. Myers and Gurney, called "The Phantasms of the Living," an elaborate effort to collect and criticise the evidence for the supposed apparitions of living persons in places remote from those where they are actually present. Phenomena of this sort, if they were to be established, would be apt to suggest some sort of thought-transference as their true explanation. The narratives in which such events were described, seemed until recently to be mere folk-lore, yet the candid investigator must admit that at the present moment there is at least a chance of finding something more than folk-lore in such accounts. The challenge has here also been fairly made. Either these stories must upon examination turn out to be demonstrably worthless, or else some such phenomenon as thought-transference must be admitted as a fact. In any case, in the interests of the fair and free study of nature, we ought to consider such matters further. If the truth were known, it would surely prove to be not marvelous in the popular sense, not romantic, not of a sort to encourage superstition (for the truth of nature, once

<sup>1</sup> See page 108 of the Journal.

found, is always free from these faults); but it would doubtless prove to be important, for the truth of nature is always important. The speaker recommended the American Society for Psychical Research to the sympathy and to the scientific interest of those present. This body, he said, has undertaken to work in an independent and critical way in the field of these significant inquiries.

MR. T. W. HIGGINSON said that some light was thrown upon Prof. Royce's theory of the lower action of the mind in thought-reading by the fact that it so often seemed to involve a lower range of moral activity as well. He had given some investigation, many years ago, to the phenomena of mediumship and had practically abandoned the inquiry in consequence of the absolute impossibility of finding any firm foothold among the phenomena. The possession of abnormal powers was apt to be combined with a mental or moral state which destroyed all inclination for a scientific or even a candid examination. While the inquirer was always assured that the performers courted such investigation, it always proved in practice that all tests must be within such narrow limits as to be valueless. Thus, the Davenport brothers were tied with knots in their dark cabinet, but the knots must be at just such points and tied in just such a manner as the performers required. The only way to detect their deceit was, by apparent clumsiness, to spill some flour on the tied hand and then to exhibit the same flour on the curtains which the "spirit-hands" had pushed aside, and this the speaker had accomplished.

But these were the cheapest and most easily detected frauds. The speaker was inclined, while investigating, to put some faith in the so-called medium-power and certainly had experiences which went far beyond the recent instances of thought-transference, even if these last were wholly genuine. He had not only had his mind read, but things known and forgotten brought back to memory in spite of him; yet the moment any serious test was attempted, either the mediums or their controlling power had become evasive or silent. Those mediums who could accomplish anything shrank from anything like scientific investigation; and those who would submit to scientific investigation yielded nothing of any value. Worst of all, there was a *luxury* and slipperiness of moral principle. The most remarkable medium whom the speaker ever saw, had admitted to him, in conversation, that mediums possessing the real power were often tempted to eke out their performances by a little deception, in order to produce conversion in unbelievers. When asked if he himself ever did this, he could only say that he was so nearly unconscious during his trances, or so highly-wrought, that he could not positively assert that he had never yielded to this temptation.

No person accustomed to such investigations could help seeing in the late experiments of Mr. Bishop the professional demeanor characteristic of mediums and of the Davenport brothers. Welcoming inquiry at the outset, he immediately began to evade or resent it when practically applied. He certainly did remarkable things, but these were constantly vitiated by the attempt to deceive the senses of his audience and make them appear more remarkable still. Proposing in his circular to have contact with his associates in the carriage experiment, through eighteen feet of wire rope, he asserted up to the end that if he touched them personally it was through inadvertence. Yet those who

walked by the side of the carriage testified that the hands of the associates were on his head for much the greater part of the time. Such tricks as these render investigation practically worthless, and show the performer to be upon a low moral plane.

The speaker said that he had joined the Society for Psychical Research from a feeling of duty; but without expecting any dazzling results. The chief result thus far was to show how much more prolific was England than America in ghost-stories. The speaker was on the committee on apparitions and haunted houses, of which Prof. Royce was chairman: they had sent out many circulars and obtained very little. Prof. Lowell had lately said of the old buildings in America that they rarely looked venerable, that time refused to console them. Perhaps they were not to be consoled even with a ghost. Nevertheless, the speaker felt a certain pride in the few thin pamphlets thus far issued by the American Society; he felt proud of the pages that were *not* there, as compared with the thick reports of the English Society, containing a great deal that was hardly worth printing. The American reports, so far as they went, were the work of men of trained scientific minds and were a positive addition to the literature of the subject. The whole matter was eminently worthy of the attention of physicians; even the delusions, if they were such, were phenomena of the human mind, and hence within the domain of that profession whose province included both mind and body.

DR. C. S. MINOT was invited to continue the discussion, and spoke as follows: It has been my good fortune to be connected with the Society for Psychical Research, and to therefore know what is being done in the way of investigating the subjects presented before it. I have been much interested in the paper of Dr. Prince, and in the remarks of those who have preceded me. I have no criticism to make, and I think the subject has been very fairly presented before the meeting. All I can do, therefore, is to tell what the Society is doing, and the results which have been accomplished through its efforts. The English Society has made a large number of experiments in the attempt to discover the source of the phenomena associated with so-called mind-reading. Here in America we have made some thirty thousand such experiments, but thus far have attained no noteworthy results. The efforts of our Society in the direction of thought-transference have not been crowned by any conclusions of value. The theory which was followed was that, if such a thing as thought-transference occurs at all in any person, it must occur to a certain extent in all persons, or in, at least, a great many persons. The observations were distributed by the mathematical calculations of the chances in such cases. The cases were all failures, with one single exception. It has been discovered that the thoughts of all persons follow a definite system in relation to the digits, so that in an experiment consisting of the determination of numbers, it is possible to know the probable system which will unconsciously be adopted by the person making the test, and thus an important aid is obtained to the correct solution of the problem. The tests of so-called investigators have often been rendered quite unreliable by the fact that they were themselves the dupes of their own ideas. The English Society is in that condition. They ask of us a tremendous act of faith, as the foundation of all further action. Nothing so stu-

pendous has ever been known in any scientific investigation which has ever been attempted. We cannot accept the conditions thus imposed upon us, which would operate to restrict both the means and the methods of investigation. We, as good men, may accept the *best* we have, believing that nothing is impossible simply because it has not yet been accomplished, and accepting nothing as positive which has not yet been proved.

The human mind is capable of but limited power of attention, and it is often quite oblivious to phenomena which take place within the perception of the senses, when the attention is powerfully diverted and held by some strong impression. Thus Coleman Sellers requested Professor Leidy to clasp his hands tightly, and to maintain them in this position. The curtain was drawn for a short time, and though Professor Leidy stoutly maintained that he had not moved his hands, yet it was found that his coat had been removed without his knowledge. The explanation of this occurrence is that the attention of the subject has been diverted from what he was endeavoring to accomplish, and the coat had been removed while his attention was held in another direction. The power of attention is a defective power, which the conjurer knows how to control, and he finds his skill in the ability to abstract the attention of the subject. We are very imperfectly acquainted with the power of the senses, which is something truly prodigious. Every one has heard of the hypnotized boy in Paris. This youth, when in the condition of hypnotism, read a page of printed matter from the reflection of the page from the cornea of a person who was looking at the page, the boy being placed in front of the reader, with the back of the book toward him. The picture made upon the surface of the cornea of the reader occupied an area of but one-tenth of a millimeter, yet the sense of sight in the youth was so acute under the condition of hypnotism, that his eye was able to discern the printed matter upon the reflected picture of the page, even under the trying conditions mentioned above.

To further test the power of the senses, a piece of wood was given to the youth, and he was directed to make a drawing of it. The picture which he made was a correct representation of the appearances of the wood, but of microscopic detail. In fact, it was a picture of the microscopic structure of the wood. Such experiments as these were unknown to the English investigators, and their results must not be looked upon as conclusive. We should withhold our ultimate decision until we know much more than we know at present. The phantasms of which so much has been written and said of late, possess little in the way of diversity or novelty. The subjects all tell the same story, subject only to variation of time, and place and persons. The facts are always the same. The subject of folk-lore is another interesting theme of investigation. We have all heard of the witches of olden times. They came here in great numbers, and wrought great mischief among the people. Good people saw them, recognized them, suffered from them, and feared them. The witches all followed a certain programme, and it was always known what they might be expected to do. The present condition of things is that of the survival of small remnants of folk-lore in our time, which are the subject of mystery and fraud.

Brain-waves are hardly capable of explaining the tricks often referred to this source. The brain has

no means of receiving impressions other than by the aid of some one or more of the senses. We know of no other method of communicating impressions to another individual than by means of the recognized channels of sense-perception. If other modes of perception exist, they have not been discovered.

The following letter was read by the Secretary:

HARVARD COLLEGE OBSERVATORY,  
CAMBRIDGE, December 5th.

DR. ALBERT N. BLODGETT, 138 Boylston St.

My Dear Sir: I much regret that other engagements will deprive me of the pleasure of accepting your invitation to attend the next meeting of the Section for Clinical Medicine. I have only one suggestion to make regarding the phenomena of muscle-reading. The case is greatly simplified when the transmission takes place through a wire connecting the agent and percipient. In this case it is not probable that any action takes place, except a variation in the tension. Such a variation ought to be capable of detection by mechanical means, of which the simplest would be a spring-balance. For the rare sensitiveness of a professional mind-reader, a substitute could thus be provided which could be used by any experimenter. Since muscle-reading is a purely mechanical phenomenon, it seems to me that its existence ought to be established by mechanical means. I hope that Dr. Prince's paper may get into print, for the benefit of those who, like myself, will be unable to hear it read.

Very truly yours,

EDWARD C. PICKERING.

DR. P. C. KNAPP said that he had listened to the remarks of Dr. Minot, and found in them the explanation of ideas which, in a vague way, had been floating in his own mind. The suggestion made by Professor Royce, that the phenomena observed in the so-called mind-reading may be a rudimentary condition, or a return toward a primitive state of mental development, seemed to Dr. Knapp to be a valuable one. The condition in which the phenomena are observed may be similar to that of hypnotism, and to certain other allied conditions sometimes observed as pathological states of the mind. In England, only a few people are capable of thought-transference, and are often the subjects of morbid mental or moral conditions.

The subjects of hypnotism are classed by psychologists as "*degeneré*." From a purely medical standpoint, there is much interest in the community in this subject. It has long been a source of curiosity to the public. The investigations which have been made show that those persons who possess the power to carry out the features of mind-reading are, without exception, such as would be classed as weak-minded. They thus fall into a similar category to that of the subjects of hypnotism.

DR. PRINCE, in closing the discussion, alluded to the contrary results obtained by English and by American observers, as tending to show that either the English people were more susceptible to the condition, or that the observers were misled. There is a limited susceptibility to morbid states. Thus only one person in twenty can be mesmerized; but in our experiments we have made thirty thousand experiments, with notably few results. The Creery children, who possessed the most remarkable powers while young, lost their power as they approached maturity. Their power was, therefore, either a rudimentary mental condition, or it was deception.

Adjourned at 10.15 o'clock.

— The most effective, as well as most convenient cure for warts is said to be fifteen grains of corrosive sublimate dissolved in an ounce of collodion, the warts to be brushed carefully with the mixture once daily.

THE BOSTON  
**Medical and Surgical Journal.**

THURSDAY, FEBRUARY 3, 1887.

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NERVE-STRETCHING.

A WORK has recently appeared<sup>1</sup> on the important practical subject of nerve-stretching which we can commend to our readers as a model of conscientious criticism. The writer has collected, with the aid of the *Index Medicus* and other books of reference, all the cases on which he could lay his hands, deliberately omitting, however, those which were not given in sufficient detail to justify a fairly accurate opinion. The whole number of cases summarized is four hundred and fifteen, and a digest of each one is given in the appendix. We will first give an outline of the writer's conclusions, and will then indicate briefly the grounds on which his opinion as to the different points is based.

1. The action of nerve-stretching as a therapeutic measure differs in kind from that of other operations on nerves (neurotomy, neurectomy and compression). Its influence makes itself felt even in the nervous centres, especially the spinal cord, and it is to this that it owes its power of modifying the sensory functions of the nerves, without materially affecting their motor functions.

2. This action of nerve-stretching on the nervous centres may give rise to hemorrhages and inflammatory changes, both acute and chronic, and often very severe.

3. The operation is therefore to be regarded as an agent of greater therapeutic power than the other operations on the nerves, and also as much more dangerous, and it should not therefore be lightly resorted to.

4. In general terms, it is only suitable for mixed nerves, section or resection being preferable for sensitive nerves. This statement is, however, in need of certain qualifications.

5. Thus, in the treatment of neuralgias of the ophthalmic division of the trigeminal nerve the results of

<sup>1</sup> *Valeur Thérapeutique de L'Elongation des Nerfs* par Le Dr. Félix Lagrange, Professeur Agrégé à La Faculté de Médecine de Bordeaux. For a reference to earlier observations on this subject, see also this Journal for January 16th, 1884.

resection and stretching are about equal, so far as the frontal and nasal branches are concerned. In case of the nasal, in fact, the operation of stretching, or, better, of complete evulsion, is to be preferred, as being relatively harmless, easy of performance, and in some respects more effective. This measure has proved of some benefit in chronic glaucoma, and of still more benefit in acute glaucoma. It is also of great value in the treatment of acute or chronic ciliary neuralgia.

6. The operation of resection is preferable for the infra-orbital neuralgias and may in case of need be extended so far as to take in Meckel's ganglion. Resection is also the best operation for the dental nerves.

7. The stretching of mixed nerves is justifiable in obstinate cases of neuralgia but the less dangerous method (applicable only to the sciatic), is that in which the stretching is accomplished by forced positions of the limb. As a means of treatment of locomotor ataxia and the different diseases of the spinal cord, nerve-stretching is of so little value as to be unjustifiable.

8. Tetanus can be treated with equal success and more safety by neurotomy, or compression of the nerves than by stretching; and (9) the same is true of torticollis.

10. Stretching is of some value in contractures and spasms of traumatic origin, and in reflex epilepsy.

11. Lepro-anaesthetica is not benefited by nerve-stretching except as regards the pain, and even this effect is not to be counted on; neither can atrophy of the optic nerve be helped in this way.

The first two of these propositions are supported partly by physiological, and partly by clinical arguments. With the former, we will not undertake to deal, except so far as to say that in experiments upon animals in the laboratory, lesions have been found in the spinal cord similar to those observed in men, besides interstitial neuritis of the nerves operated on. We cannot wholly agree with the writer in regarding it as proved that an action on the nervous-centres is the peculiar and essential feature of nerve-stretching, but whether the therapeutic effect of nerve-stretching implies this action or not, the list of cases in which such an action has been produced, to the patient's evident injury, is enough to inspire serious thoughts of caution; and the more so that this list is probably very incomplete, partly because disastrous results are often left unrecorded, and partly because those which only show themselves after the lapse of some time are often unrecognized.

Fourteen cases of serious results are reported, many of them ending in death. Briefly stated, these observations are as follows:

1. Case reported by Hirschfelder; locomotor ataxia; stretching of both sciatics; epileptiform attacks immediately after the operation; two days later somnolence and coma; death on the fourth day. 2. Reported by Cavalry; locomotor ataxia; stretching of the left sciatic; relief from pain for one month; recurrence of pain; two months later acute myelitis; epilepti-

form convulsions; coma and death. 3. Reported by Gussenbauer; death after the end of six weeks; with the symptoms of pyelo-nephritis. 4. Reported by Westphal; stretching of the sciatic nerve; diffused softening of the spinal cord in scattered spots. 5. Same; stretching of the crural nerve on one side; paralysis of both sides including the sphincter; improvement; transverse myelitis; death. 6. Reported by Rumpf; locomotor ataxia; stretching of both sciatics; death on the ninth day and hemorrhage into the cord. 7. Reported by Weltrubsky; locomotor ataxia with cystitis; nerve-stretching; increase of the disorders of motion and sensation; death on the thirty-eighth day from purulent nephritis; hemorrhage beneath the membranes of the cord and signs of inflammatory process. 8. Reported by Kulenkampf; locomotor ataxia; stretching of both sciatics with thorough antiseptic precautions; paralysis of the vesical sphincter immediately after the operation; phlegmonous inflammation of the right side; death. Extensive suppuration was found along the sciatic nerve, but no recent lesion of the cord which seemed capable of explaining the paralysis of the sphincters. This result has, however, been several times reported, as for example in a case (10) by Obalinski; locomotor ataxia; stretching of the crural nerves; paralysis of both sphincters; death in two weeks. 11. Reported by Podrez; locomotor ataxia; stretching of both sciatics; ten days later severe trophic disorders; gangrenous eschar; death in six weeks. 12. Reported by Fenger; locomotor ataxia; stretching of both sciatics and both crurals; relief from pain, followed by eschar of the sacrum, pyemia and death. 13. Reported by Mickulitz; multiple sclerosis of the spinal cord; nerve-stretching; death very shortly afterwards. It is not only where large nerve-trunks are stretched that such results are seen. 14. Oberlinski has reported a case where the patient died rapidly in coma two days after the stretching of the intercostal nerves.

Among lesser accidents may be mentioned neuritis of the nerve stretched. Ulcerative keratitis followed stretching of the inter-orbital nerve in one case, an accident which has never been reported, to say the least, as the result of a resection of this nerve. Six cases are described of permanent paralysis due apparently to injury of the nerve itself; Gillette reports a case of nerve-stretching for sciatica followed by the disappearance of the specific pains, but shortly after, by the onset of neuralgia elsewhere which had previously not been present; and the same author gives us a second case of similar history.

Not even yet is the catalogue of possible mischances complete. Several cases have been reported where the nerve has unexpectedly ruptured, probably because it had become weakened by morbid changes, the extent of which had not been appreciated. Once death occurred from the entrance of air into the veins, and once from pulmonary embolism, resulting from thrombosis of the right femoral vein. Professor Verneuil had one death from rapid phlegmonous erysipelas.

Berger reports a similar result, although the operation had been conducted with full antiseptic precautions, and it is a fair question whether this was not due to an impairment of the vitality of the tissues, caused by injury of the nerve or nerve-centres, since similar accidents (deep suppuration) have been reported also by others.

It is noticeable that in almost all the most serious cases the spinal cord had been previously diseased, and it may be that but for this the nerve-stretching would not have produced disastrous results. It must, however, be borne in mind that we can rarely be sure that we are dealing with a perfectly healthy case, nor can we accurately gauge the degree of irritation that we set up. In the case of the sciatic nerve, the method of stretching by a forced position of the limb ("bloodless-stretching") is considered less dangerous than the operation which was done in the cases above cited; and the writer says that, in fact, this has not been reported as having been followed by any serious lesions of the nervous centres. It has, however, been demonstrated that the traction produced in this way actually displaces the spinal cord, and it is not, therefore, to be looked upon as an operation to be resorted to without hesitation. Furthermore, we have ourselves seen a severe neuritis lighted up in this way in a case of sciatica of several months' standing, and no longer presenting acute symptoms.

The writer next studies the therapeutic value of the operation for the different nerves of the body, with the results stated in the propositions 5, 6, 7, and 10, given above.

Without attempting to follow him at length through the remainder of his argument, we will call attention to one or two points. It is often advised that when the different branches of the fifth pair are operated upon, even if resection is the final intention, stretching should first be employed as an additional precaution. The analysis made by Lagrange renders it probable that we do not in this way materially improve the chances of success, while at the same time we do introduce a new element of danger. It must be, in fairness, acknowledged, however, that, inferences and theoretical considerations apart, the cases actually reported do not show this danger to be great, since out of forty-nine cases of stretching of the different nerves of the face, no more serious accident than suppuration, which was eventually recovered from, is reported, and this only three times, except the single case of ulceration of the cornea mentioned in the text. We have not had the opportunity of referring to the details of a communication to which the writer refers, made by Nicaise to the Société de Chirurgie, in which traction on the cranial nerves is spoken of as especially dangerous, on account of their nearness to important central organs.

The actual showing of the cases of stretching of the superficial mixed nerves, not attended by disease of the spinal cord (see above), is also rather favorable to the operation. Ninety-eight such cases are recorded, of

which sixty-eight were operations on the sciatic. There was only one death (stretching of the intercostal, see above), and a few cases of deep suppuration and temporary paralysis of the sphincters.

The successful results, so far as the cases were followed, were in the great majority; but, unfortunately, few of the patients were under observation long enough to test the question of the recurrences of the pain, and the appearance of secondary disorders of the spinal cord.

In view of the serious results in such a large proportion of the cases of locomotor ataxia, it is urgently desirable that surgeons should furnish us with the means of judging about the final outcome of the operations for neuralgia also. The former cases, it must be remembered, were so much before the public eye, that the results in them were sure to be made known.

For one set of cases, it seems to us that Lagrange distinctly overrates the value of nerve-stretching, and that is the cases of facial spasm. An unprejudiced examination of the final reports, as given by Bernhardt, Keen, and others, makes it plain that stretching of the facial nerve is practically valueless as a means of permanent cure.

It is well known that the attempt has frequently been made, with occasional benefit, to treat clonic torticollis by stretching the external branch of the spinal accessory, and the writer does not bring forward absolute demonstration of his belief that this operation is a dangerous one from its action on the nervous centres. All that we know, however, of the clinical history of these local clonic spasms points to the conclusion that whatever benefit is gained in them by operations upon nerves is due mainly, if not wholly, to an interruption of conduction through the nerve-trunks. The muscles supplied by the external branch of the spinal accessory, fortunately, receive also filaments from other sources, and, therefore, resection of the spinal accessory is not followed by complete paralysis, and is not likely to prove more permanently useful than the stretching, while it also is without the danger which theoretically attends the latter operation.

#### MEDICAL EXPERT TESTIMONY.

In a recent editorial (January 20th, 1887,) we made reference to the hardships to which the members of the medical profession were liable to be subjected in suits for malpractice. One of the methods of action proposed as tending towards the alleviation of the unjust position in which medical men find themselves, when defendants in such suits, is the regulation of medical expert testimony. Every medical man who has been obliged to act as an expert in any case in the courts, and how few there are who have not at one time or another been called upon to do so, knows from personal experience in what a false and unfair position the expert is placed. However scrupulously honorable, however desirous of justice and fair play

he may be, and we believe that a very large percentage of all our experts are of this character, the medical expert is, by the very conditions under which he is placed often forced into the position of an ex-parte witness, only differing from the ordinary witness in the nature of the evidence which he is expected to give and in the size of his fee. Called by one party to the suit, consulting more or less frequently with those interested in one side of the case, the expert himself is liable after a time to become unconsciously imbued with their views and his opinions are apt to be involuntarily modified by the surrounding influences; and this is of importance since the subject of his testimony is opinions rather than facts.

Yet this is but a small factor in the injustice of the position. As at present regarded the medical expert is rather expected to make an ex-parte statement. Not long ago at a dinner given in honor of one of the most able and distinguished physicians we know, the following anecdote was related: Two gentlemen were walking down the street in earnest conversation in regard to a suit in which medical expert testimony was required. One of them asked the other, "Shall you summon Dr. — as expert on this suit?" "Oh no," was the reply, "certainly not, you never can tell which way his testimony will go." So long as in the public opinion it is considered just and right to know in which way the expert testimony will go, so long will it be very difficult for medical experts to give their opinions without at least unconscious prejudice.

Again, if experts were permitted in all cases to make a full statement of their views and opinions in regard to the subjects on which they were consulted, the evil of the present system would be much lessened. But this is not so. They are called upon simply to answer carefully-framed questions and skillfully-built hypotheses, and the jury in many cases is in no position to appreciate the force of the answers, while the physician has constantly to be on his guard lest by some remark, but partially understood by the jury, he may convey the opposite impression from that intended.

Medical expert testimony in most of our States has now, in consequence of these things, reached a low level in the public estimation as well as in legal circles. This may be due in a small part to the fault of the profession itself, but the principal cause is the unfortunate, the unfair, and we might almost say, the dishonest position in which the expert is placed by our present system of trial.

To remedy this, various measures have been suggested. The excellent pamphlet of Mr. Clement Herschel, "On the best manner of making use of the services of experts in the conduct of judicial inquiries," has been printed by the direction of the Bar Association of the City of Boston. It is a powerful argument in favor of a change in the system of summoning experts, and it gives a *résumé* of the practice in England and Germany. As a result of their consideration of this subject, the Committee of the Bar Association on

the amendment of the law has already voted to recommend to the Council that action be taken favoring the passage by the Legislature "during the coming session" of the following bill in relation to medical expert testimony :

**SECTION 1.** In any action, suit or proceeding, civil or criminal, in which the testimony of a medical expert witness is desired by either of the parties, the court or any judge thereof in chambers, or in vacation, in any county may designate one or more proper persons learned in the science of medicine, to be summoned as such expert witness: and the clerk shall thereupon issue a subpoena.

**SECT. 2.** Such witness shall be paid for his attendance, travel and services, including services in preparation, a reasonable compensation to be allowed by the court and paid out of the treasury of the county.

**SECT. 3.** In any criminal proceedings the defendant may call and examine other expert witnesses in addition to those hereinbefore provided for, but at his own cost, and in such cases other medical expert witnesses may be called and examined by the Commonwealth.<sup>1</sup>

**SECT. 4.** No medical expert witness shall be admitted to testify before any court or magistrate, except as hereinbefore provided.

We hope that some movement in this direction may prove successful. It should be distinctly understood that the bill above quoted has thus far only been recommended by the Committee to the Council of the Bar Association and has not yet been approved by the Council. We understand, however, that a bill of similar character is now before the Judiciary Committee of the Legislature.

#### REPORT OF THE SURGEON-GENERAL OF THE ARMY.

THE report of the Surgeon-General of the Army for the fiscal year ending June 30, 1886, has just been issued, and contains the usual amount of statistical information and other matters of interest. The recommendation that Congress grant authority, in the purchase of medical and hospital supplies which cost less than \$500, that such purchases be made after due advertisement for bids, without entering into a formal written contract, is a movement in favor of greater simplicity and directness. In many instances a strict compliance with the letter of the law and existing regulations, in preparing the formal executory contracts, *five copies of which are required*, entails an expense to the Government in clerical time and labor fully equal to the cost of the article for which the contract is made. It is not believed that such was the intention of the framers of the laws relating to purchases of Government supplies.

It is proposed to add to the literary work which the medical department of the army has already accomplished, or, at least, it is considered very desirable to do so by the publication of a catalogue of the museum. Such a catalogue, with proper illustrations, will make three large volumes, and will be of great benefit to the medical profession as well as to the museum itself, and it is respectfully recommended that

authority be granted by Congress for printing this work. The preparation of the manuscript of Volume VIII of the Index Catalogue is well advanced, and the first part of it is now going to press.

The publication of the third medical volume, the last of the series composing the Medical and Surgical History of the War, has been delayed by the pressure of current work at the Government Printing-office. The manuscript was ready for the press in February last, but little progress was made in printing during the continuance of the session of Congress. All the plates, diagrams, and other materials for the illustration of the volume are on hand, and page-proofs of the first hundred pages of the work have been filed in the Surgeon-General's office.

The acting Surgeon-General reiterates the necessity for the organization of a hospital corps, by the enlistment of able-bodied and intelligent men, who shall be thoroughly trained and instructed as cooks, nurses, attendants, and litter and stretcher bearers, thus preparing the Medical Department for any emergency of peace, war, or epidemic.

The report is signed by J. H. Baxter, as acting Surgeon-General, U. S. Army.

#### ANNUAL REPORTS OF THE PRESIDENT AND TREASURER OF HARVARD COLLEGE, 1885-86.

THE portion of this report relating to the Medical School is that which especially concerns us and our readers, and we accordingly turn to it immediately. On the principle of "blessed that country whose annals are few" the Medical School of Harvard University must be regarded as very prosperous. Out of twenty-four pages of the President's report the Medical School gets less than one; a more distinguished treatment, it is true, than that allotted to the Divinity School, but less so than the Law School receives. Moreover, the impression of a sleek prosperity, derived from the meagre annals, is increased, when we learn elsewhere in the President's report that both the Dental School and the Veterinary Department are really dependent upon the gratuitous assistance which they receive from the Medical School for their existence. As for the Medical School itself, apparently all it now needs is "income enough to enable it to make full use of the facilities which its excellent building affords for laboratory investigations connected with medicine." The Law School, on the other hand, though acknowledged to be in a position of great strength, the proof of which is given in detail, it is announced: "needs more teaching and more scholarships. A professional school of high grade ought not to depend on tuition-fees for nearly two-thirds of its annual expenses."

And yet the Law School with an attendance of one hundred and fifty-eight students during the year, and not requiring laboratories, has invested funds amounting to \$176,898, yielding with one-quarter of the Bussey trust an annual income of \$12,851; whilst the

<sup>1</sup> Section 3 is inserted only to meet the possible objection of the unconstitutionality of the bill in its application to criminal cases.

Medical School, with an attendance of two hundred and seventy-two students and the much more expensive machinery required for their education (to say nothing of the aid extended to the Dental and Veterinary Schools), has an invested fund of only \$181,000, yielding an annual income of \$10,333.

To say the truth, whatever the needs of other departments or other schools of the University, we believe there are none which require endowments more seriously than the Medical School, and there are none from which there would revert to the public so immediate and so handsome a return upon its gifts. Moreover, it is in the departments for clinical instruction that such funds are most needed. The branches dependent upon laboratory work and instruction were those most benefitted by the erection of the new and admirable building for the School. We believe the University has no more devoted or self-sacrificing teachers in its whole corps than those connected with the clinical branches of the Medical School. Were it not for this devotion on the part of a large number of men occupying hospital and dispensary positions, some of whom are in no official relation to the School and receive no mention in the reports, the clinical instruction of the School would come practically to a standstill. At the present time the two very important Professorships of Clinical Medicine and Therapeutics are vacant, and during the year 1884-85 one professor filled the two chairs. We do not undervalue the necessity of laboratory training in making good physicians or of laboratory work in advancing the science of medicine, but after all said and done the patient remains as a very large part of the equation to be solved, and he must still be studied, sometimes as a type, but much more often as an individual by and for himself.

Of the whole number of students in attendance during the year (272) 148 had literary or scientific degrees, a very encouraging proportion. There were 70 applicants for the degree of doctor of medicine in the three years' course, of whom 11 were rejected; there were nine applicants for the degree in the four years' course, of whom two were rejected. There were 18 students in the fourth class, only one half, therefore, came up for a degree.

The Medical Faculty have laid before the Academic Council a plan for the abridgement of the college course by those students who go from college directly into one of the professional schools of the University, with a view to avoiding the too advanced age at which graduates of colleges or scientific schools begin the study of medicine, and the consequent unreasonable postponement of entrance into practice, especially if a thorough course of professional study is pursued. We shall revert to this very vital issue at some future time.

— If Queen Victoria does not celebrate her jubilee by a liberal assistance to the London hospitals, it will not be for lack of sufficient reminders from the medical press of England.

#### COCAINE IN THE INCOERCIBLE VOMITINGS OF PREGNANCY.

COCAINE has lately come into use for the incoercible vomitings of pregnancy, and in several cases reported by Weiss, Engelmann, Holtz and Bois, it seems to have given good results. Weiss prescribes a teaspoonful every half hour of a solution containing fifteen centigrammes of hydrochlorate of cocaine in one hundred and fifty grammes of water. Engelmann and Holtz use a three per cent. solution in ten to thirty drop doses, while Bois applies to the neck of the uterus, night and morning, a pomatum in which one centigramme of cocaine is incorporated with fifty grammes of vaseline. Fraipont prefers the hypodermic method, injecting under the skin a Pravaz syringe full of a four per cent. solution, and claims signal success in other forms of obstinate vomiting, as well as in the vomitings of pregnancy.

#### MEDICAL NOTES.

##### NEW YORK.

— Mrs. Cornelius Du Bois has recently started a fund for sending out trained nurses from the school in E. 36th St., to care for the poor in their homes, and Mrs. Cornelius Vanderbilt has contributed \$1,000 towards it.

— The Alumni Association of the Medical Department of the University of the City of New York held its sixteenth annual dinner at Delmonico's on the evening of January 27th, when Dr. F. R. S. Drake presided, and the annual toasts were responded to.

— Small-pox has become increasingly prevalent of late, and, in consequence, six extra sanitary inspectors have been appointed to assist the present force of the Board of Health in arresting its progress. The disease has been rare in New York since 1882, when 708 cases, with 259 deaths, were reported from it. In 1883 there were but 26 cases reported, with 12 deaths, and in 1882 there were but 5 cases, and not a single death. In 1885 there were reported 105 cases, with 26 deaths, and in 1886, 109 cases, with 31 deaths.

— At the last meeting of the Medical Society of the County of New York, a paper on the "Relations of the Board of Health to the Medical Profession in the City of New York," by Dr. John C. Peters, was read by the Secretary. Dr. Peters claimed that the relations between physicians and the Board of Health were always disagreeable from the fact that at the head of the Board, as required by law, was a layman, and not a medical man. He urged that a bill be drawn up making it essential that the head of this department should be a regularly qualified physician. Dr. Peters asserted that the Board persistently refused to inform, as it is required by law to do, the Board of Education of the prevalence in any locality of contagious disease. As to its examination of the nuisances of the Croton River and its tributaries, he said that amounted to nothing, because the State Board of Health was not communicated with, and was consequently powerless to remove the sources of impurities.

### Miscellany.

#### THE OUTBREAK OF CHOLERA IN BUENOS AYRES.

The weekly abstract of sanitary reports issued by the Marine Hospital Service, and dated January 27th, contains an interesting extract from the dispatches of the United States Minister at Buenos Ayres concerning the outbreak of cholera in that country. It seems that cholera made its first appearance about November 1st, and was imported by the Italian ship "Persico," plying between Genoa and Buenos Ayres. The ambassador of the Argentine Government in Italy was a passenger on the ship, "and the anxiety to secure him an immediate landing, on the part of the ship's commander, seems to have so far overcome his sense of duty that, by concealed or garbled reports, he managed to turn loose, on Argentine soil, first here, then at Rosario, a great many persons from an infected ship. The testimony of passengers shows conclusively there was nearly a score of burials at sea of those who died of cholera on the voyage."

The disease was most fatal at Rosario, a city of commercial importance 200 miles from Buenos Ayres, where, out of a population of about 50,000, there were at one time from 35 to 50 deaths daily.

The United States Consul at Buenos Ayres, under date of December 10th, states that "while a few cases of cholera are still reported in each day's bulletin, the disease appears to have pretty much run its course at this port. On yesterday, up to ten o'clock, only one new case had occurred in the city proper, and two cases on board a steamer at Boca port. In the interior of the country, however, the disease has made its appearance, and in some places with a marked type. On the 4th instant, there were 13 deaths at Rosario, and 14 new cases, and at Cordoba 2 deaths and 5 new cases. The authorities feel assured that the prompt and rigid measures taken to stamp out the disease will prevent it from becoming epidemic. In all bills of health now issued by me I note the fact that cholera exists in this port, but apparently not in epidemic form."

#### TRANSMISSION OF HYDROPHOBIA BY THE INTENSIVE METHOD.

In connection with the charge of M. Peter, before the French Academy, that the death of the man Réveillac was very likely due to hydrophobia caused by Pasteur's "intensive inoculations," it is not amiss to quote some of the conclusions arrived at by Professor von Frich, of Vienna, as the result of laboratory experiments with the virus of rabies obtained from M. Pasteur for that purpose. Among other conclusions reached von Frich, states the following: (*Lancet, Vienna Correspondent.*)

1. Animals which have been subjected to hypodermic injections of a series of virus attenuated by desiccation become refractory to the stronger virus by the previous inoculations with the weaker virus if the stronger virus have not been used in too rapid succession. 2. Animals which have been inoculated hypodermically during ten days with virus of progressive virulence (medulla from ten days to one day) have not been refractory to infection with the fresh virus of street rabies, and have only exceptionally escaped after intra-cranial infection. 3. Rabbits and dogs

inoculated by trephining with the virus of street rabies of sixteen days' incubation have always succumbed, notwithstanding the preventive treatment already described. 4. M. Pasteur attributed to the method of slow vaccinations the unsatisfactory results obtained previously by M. von Frich, and recommended a more intensive mode of treatment. The experiments carried out conformably to M. Pasteur's instructions have given no more favorable result; all the animals died of rabies. 5. The experiments have demonstrated a most important fact—that is, that in the rapid process the weaker preservative medulla do not confer the same certainty of immunity from the effects of inoculation with the stronger medulla. Of a series of dogs and rabbits inoculated as a control-experiment to that described in the preceding paragraph, and in which the rapid process was carried out without previous infection, most of the animals died of rabies. 6. Most of the animals which were submitted to the preventive treatment after subcutaneous inoculation with street rabies, died of the disease even when the period of incubation was thirty-four days. These experiments show, says M. von Frich, that Pasteur's method of rendering animals refractory to rabies is not yet either sure or certain. There is not yet a sufficient scientific basis for the application in man of a preventive treatment after the bite of a rabid animal. It is, moreover, quite possible that the preventive treatment, at any rate the intensive method recently recommended by M. Pasteur, may itself transmit the disease.

#### OBITUARY.

##### SILAS EMLYN STONE, M.D.

The County of Norfolk loses a valuable citizen, and the medical profession of Massachusetts one of its most useful members, by the death of Dr. S. E. Stone, which occurred January 29, 1887, from uremia, at Walpole, Mass. He was a model of the well-educated country physician. His nicely-balanced mind, superior judgment and intelligence, strong sense of duty, — his self-respecting and calm, but always pleasant demeanor, and perfect equilibrium, — secured him high and appreciative estimation in a community which had known him from childhood, and among whom he had practised for a quarter of a century.

Dr. Stone was appointed assistant-surgeon of the Twenty-Third Massachusetts Regiment almost immediately after taking his medical degree. He nearly died of a fever contracted in the service, and came back to Walpole to be prostrated shortly afterward by a peri-nephritic abscess which again threatened to destroy his life. From this last-named casualty he never wholly recovered; but in the vacations, which his impaired health every now and then rendered necessary, he acquired much applicable knowledge of men and the thoughtful experience of an extensive and observing traveller which greatly added to his usefulness as a practitioner.

He was always alive to the interests of his native town. His admirable paper on "Charlton," a disease which repeatedly occurred in a hair-factory at Walpole, is well known to the profession. The firm and heroic stand which he took between the operatives and the factory owners at the time of a serious epidemic of that disease, — compelling the latter to thoroughly disinfect the raw material used, regardless of cost; a measure which put an end to the fatality attendant on handling certain kinds of hair, and prevented threatened riot and destruction, — is not so well known as if it had been the act of a less modest individual.

The removal by death of such a physician, in the prime of life, from his circuit of practice in a neighborhood so distinctly rural as that in which he lived, is a calamity to his medical neighbors and to his personal friends at a distance not less than to the locality itself. It is equally a misfortune to the public in general, which can ill afford the loss of professional men whose lives are worthy of the praise due to that of Dr. Stone.

##### WILLIAM THORNDIKE, M.D.

Dr. William Thorndike, formerly of Beverly, Mass., but for the past twenty-one years a resident of Milwaukee, Wis., died in the latter city on the 29th inst., of double pneumonia, aged fifty-one years, six months. He was the son of Albert Thorn-

dike, of Beverly, formerly president of the Eastern Railroad. In 1854 he was graduated from Harvard College and in 1857 from the Harvard Medical School. Dr. Thorndike began practice in his native town after service at Rainsford's Island and at the Massachusetts General Hospital. In 1862 he was commissioned as assistant surgeon in the Thirty-fourth Massachusetts Volunteers (Col. George D. Wells) and was soon made surgeon of the Thirty-ninth Massachusetts, serving in that capacity until the regiment was mustered out at the close of the war. He leaves three sons, the eldest of whom is pursuing the study of his father's profession.

## LUDWIG BANDL.

The death of Professor Ludwig Bandl, who was appointed last summer to succeed Breisky in the Chair of Obstetrics and Gynecology at Prague, took place early in December. He was perhaps mostly widely known to the profession in America in connection with his views regarding the uterine contraction-ring to which his name was given, and as to which, whether it reached the true internal os or not, a vigorous discussion has ever since been maintained. His writings upon the "Mechanism of Rupture of the Uterus," and upon the "Diseases of the

Tabes of the Ligaments of the Pelvic Peritoneum and the Pelvic Cellular Tissue, including Extrauterine Pregnancy," are well known to our readers. He had been *privat-docent* instructor in the Vienna Polytechnic, and Professor Extraordinary of Gynecology in the University of Vienna.

## Correspondence.

## TRANSLATION REQUESTED.

BOSTON, January 27, 1887.

MR. EDITOR:—The following message was left on my slate, showing the necessity of required Greek.

ο αναγκαιος εστι χρησθαι διδαξε λεγα

I have waited a long time to see if the writer would appear. He has not. I wonder how many of the JOURNAL readers can translate. Yours truly, B.

## REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 22, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Diarrheal Diseases.	Acute Lung Diseases.	Diph. & Croup.	Measles.
New York . . . . .	1,439,039	780	335	23.75	1.04	20.67	9.36	8.84
Philadelphia . . . . .	971,263	418	125	11.04	.72	18.24	5.28	.48
Brooklyn . . . . .	690,000	310	137	14.72	1.92	23.04	8.96	2.98
Chicago . . . . .	630,000	—	—	—	—	—	—	—
Boston . . . . .	380,406	175	55	9.69	.57	18.24	7.41	.57
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,230	145	40	10.35	1.38	14.49	4.83	—
Cincinnati . . . . .	325,000	—	—	—	—	—	—	—
New Orleans . . . . .	238,000	128	29	3.12	.78	8.58	1.56	—
Buffalo . . . . .	202,818	—	—	—	—	—	—	—
District of Columbia . . . . .	205,000	82	21	3.69	—	11.07	2.46	—
Pittsburgh . . . . .	190,000	79	30	29.21	6.08	20.32	5.08	16.51
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	118,070	—	—	—	—	—	—	—
New Haven . . . . .	78,000	—	—	—	—	—	—	—
Nashville . . . . .	60,000	29	11	—	—	24.43	—	—
Charleston . . . . .	60,145	33	9	9.00	6.06	21.21	—	—
Worcester . . . . .	68,383	28	9	10.71	—	17.85	7.14	—
Lowell . . . . .	64,051	—	—	—	—	—	—	—
Cambridge . . . . .	59,660	19	5	5.26	—	5.26	—	—
Fall River . . . . .	56,863	27	12	11.10	—	11.10	7.40	—
Lynn . . . . .	45,861	14	5	14.28	—	—	14.28	—
Lawrence . . . . .	38,825	23	6	13.05	—	8.70	—	—
Springfield . . . . .	37,577	10	3	10.00	10.00	10.00	—	—
New Bedford . . . . .	33,393	11	5	9.09	—	9.09	9.09	—
Somerville . . . . .	29,992	—	—	—	—	—	—	—
Salem . . . . .	28,084	13	1	15.38	—	—	7.69	—
Holyoke . . . . .	27,894	—	—	—	—	—	—	—
Chelsea . . . . .	25,709	6	1	—	—	16.66	—	—
Taunton . . . . .	23,674	—	—	—	—	—	—	—
Haverhill . . . . .	21,796	—	—	—	—	—	—	—
Gloucester . . . . .	21,713	—	0	—	—	—	—	—
Brockton . . . . .	20,783	10	2	40.00	—	—	30.00	—
Newton . . . . .	19,759	1	0	—	—	—	—	—
Malden . . . . .	16,407	11	2	9.09	—	9.09	9.09	—
Fitchburg . . . . .	15,375	4	0	—	—	—	—	—
Waltham . . . . .	14,609	5	0	—	—	20.20	—	—
Newburyport . . . . .	13,716	4	1	—	—	—	—	—
Northampton . . . . .	12,806	6	1	16.66	—	—	16.66	—
Massachusetts Towns . . . . .	—	—	—	—	—	—	—	—

Deaths reported 2,291: under five years of age 845; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 371; acute lung diseases 428; consumption 345; diphtheria and croup 165; measles 95; diarrheal diseases 24; typhoid fever 24; scarlet fever 22; whooping-cough 13; malarial fever 12; erysipelas seven; small-pox four; puerperal fever two. From typhoid fever, Philadelphia 11, New York four, Baltimore and Pittsburgh three each, Boston, New Orleans and Lawrence one each. From scarlet fever, New York 11, Philadelphia five, Brooklyn, and Pittsburgh two each, Baltimore and Lawrence one each. From whooping-cough, New York six, Baltimore two, Philadelphia, Brooklyn, Pittsburgh, Lawrence and Brockton one each. From malarial fevers, New York eight, Brooklyn three, Charleston one. From cerebro-spinal meningitis, New York six, District of Columbia, Nashville and Worcester one each. From erysipelas, New York two, Philadelphia, Brooklyn, Boston, Cambridge,

and Salem one each. From small-pox, New York and Brooklyn, two each. From puerperal fever, Philadelphia and Fall River one each.

In the 19 cities and greater towns of Massachusetts, with a population of 895,246 (population of the State 1,941,465) the total death-rate for the week was 20.74 against 22.02 and 22.61 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,000, for the week ending January 8th the death-rate was 2.65. Deaths reported 4,690: infants under one year of age 800; acute diseases of the respiratory organs (London), 731; measles 235; whooping-cough 81, scarlet fever 65, fever 47, diarrhoea 28, diphtheria 21.

The death-rates ranged from 40.6 in Plymouth to 15.7 in Sunderland; Birmingham 24.4; Blackburn 23.7; Hull 20.4; Leeds 24.0; Liverpool 28.8; London 26.3; Manchester 36.4; Newcastle-on-Tyne 33.2; Nottingham 18.3; Sheffield 21.4.

The meteorological record for the week ending January 22, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Jan. 22, 1887.	Barom- eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday...16	30.008	19.0	25.0	9.0	80.0	69.0	65.0	71.0	N.W.	W.	W.	6	4	4	F.	C.	C.	—	—
Monday...17	29.517	30.0	36.0	17.0	100.0	100.0	91.0	97.0	S.E.	N.	N.W.	6	4	14	N.	R.	C.	—	—
Tuesday...18	29.744	13.0	30.0	18.0	71.0	61.0	74.0	69.0	W.	W.	N.W.	16	29	17	C.	C.	C.	—	—
Wednesday...19	30.083	16.0	19.0	-5.0	91.0	67.0	66.0	75.0	W.	S.W.	W.	8	15	11	C.	O.	C.	—	—
Thursday...20	29.900	31.0	40.0	15.0	85.0	73.0	68.0	75.0	S.W.	S.	S.W.	4	10	20	O.	O.	O.	—	—
Friday...21	30.146	36.0	44.0	25.0	61.0	46.0	55.0	54.0	W.	N.W.	N.	19	25	8	C.	C.	C.	—	—
Saturday...22	30.348	34.0	46.0	18.0	63.0	77.0	88.0	76.0	N.W.	S.	S.W.	4	10	15	O.	O.	O.	24	0.67
Mean, the Week.	29.964	24.7						74.0											

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; †, rain and melted snow.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 22, 1887, TO JANUARY 28, 1887.

MORRIS, EDWARD R., assistant surgeon. Granted leave of absence for one month, to take effect about March 10, 1887, with permission to absent for an extension of twenty days. S. O. 6, Division of the Pacific, January 19, 1887.

#### SOCIETY NOTICES.

**MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.**—THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, February 9th, at 7.45 o'clock. Papers: Dr. H. C. Haven will read a paper on "Infant Feeding," which was postponed from the November meeting. Dr. E. M. Buckingham will open the discussion. Dr. F. W. Stuart will report a case of "Thrombosis of the Left Vertebral Artery with Autopsy." Dr. W. N. Barnard will open the discussion. Dr. J. W. Farlow will present a series of five cases of "Large Visible Pulsating Artery on the Posterior Wall of the Pharynx."

ALBERT N. BLODGETT, M.D., Secretary.

F. I. KNIGHT, M.D., Chairman.

**BOSTON SOCIETY FOR MEDICAL OBSERVATION.**—A regular meeting of the Boston Society for Medical Observation will be held at the Medical Library, 19 Boylston Place, on Monday evening, February 7th, 1887, at eight o'clock. Readers: Dr. F. B. Harrington, "A Case of Osteo-Sarcoma of the Lower Jaw;" Dr. F. C. Shattuck, "Subsequent History of a Patient with an Abdominal Tumor diagnosed as Floating Spleen, in 1877."

CHARLES P. STRONG, M.D., Secretary.

**GYNÆCOLOGICAL SOCIETY OF BOSTON.**—The next meeting of the Gynecological Society of Boston will be held at No. 19 Boylston Place on Thursday, February 10th, 1887, at 4 o'clock, P. M. Communications: Dr. Apostoli's paper, entitled, "A New Method of Treatment of Chronic Metritis—and especially Endometritis—by the Intrauterine Chemical Galvano-caustic," will be read by Dr. Fox, of Lowell. A paper by Horatio R. Bigelow, M.D., of Leipzig, entitled, "The Truths of Nature demanding Similar Truths from Science and Art." Should time permit, the discussion of the subject, "Masturbation in the Female and the Advisability of Battley's Operation in Extreme Cases of Nymphomania," will be resumed; Dr. E. W. Cushing and Dr. W. S. Brown will open the discussion.

H. J. HARRIMAN, M.D., Secretary.

#### A PRIZE ESSAY ON HAY FEVER.

The Chairman of the Committee on Scientific Facts, of the United States Hay-Fever Association, asks leave to submit the following to the members, and to the Medical Fraternity, and to all who are interested, whether as sufferers or students of this increasing malady:

At its last meeting, September, 1886, at Bethlehem, N. H., the Association decided to offer a prize for the best essay from a competent source, preferably a physician, on some question relating to *Etiology*, or *Hay-Fever*. The amount is necessarily small; but, as the accepted Essay will be published in the Association's report, when the extent of its circulation, and the character of those whom it will reach shall be considered, it is thought that the successful treatise will give to its author a reputation worth the effort.

In order to carry out the above the following is announced officially:

(1) Subject of the Essay, Hay-Fever. (a) Its Pathology. (b) The predisposing, and the aggravating causes. (c) Advice to the sufferer.

(2) The Essay not to exceed four thousand words, and to be as practical and non-technical as possible.

(3) The manuscripts to be received at the office of SAMUEL LOCKWOOD, Freehold, New Jersey, not later than April 30, 1887.

(4) Each manuscript to have a Motto under the Title, and to be accompanied with a sealed letter containing said Motto, also the name and address of the author. These letters not to be opened until after the award is decided.

(5) The prize to be \$25. The accepted essay to be published immediately in the Association's annual report, one hundred copies to be given the author.

(6) The Committee of award: Samuel Lockwood, Chairman of Committee on Scientific Facts; Frank B. Fay, President U. S. H. F. A.; Charles C. Dawson, Secretary U. S. H. F. A.

Respectfully yours, SAMUEL LOCKWOOD,

Chairman of Committee on Scientific Facts.

FREEHOLD, N. J., January 15, 1887.

#### DEATHS.

Died at Princeton, Mass., January 28, 1887, Joseph Thomas Odiorne West, M.D., M.M.S.S., aged about sixty years.

Died in Walpole, Mass., January 29, 1887, Silas Emlin Stone, M.D., M.M.S.S., aged forty-eight years.

Died in Lawrence, Mass., January 31, 1886, Anthony Bernard Magee, M.D., M.M.S.S., aged thirty-eight years.

#### BOOKS AND PAMPHLETS RECEIVED.

Annual Report of the President and Treasurer of Harvard College. 1886-86.

Inebriate Maniacs. By T. D. Crothers, M.D., Superintendent of Walnut Lodge, Hartford, Ct. (Reprint.)

Twenty-Sixth Annual Report of the House of the Good Samaritan, McLean Street. For the Year ending January 1, 1887.

The Principles and Practice of Operative Surgery. By Stephen Smith, A.M., M.D., etc. New and Thoroughly Revised Edition, Illustrated with 1005 Woodcuts. Philadelphia: Lea Brothers & Co. 1887.

Clinical Observations on Endoscopy of the Male Urethra. By Hermann G. Klotz, M.D., Attending Surgeon to the Department for Skin Diseases and Venereal Diseases in the German Hospital and Dispensary, N. Y. (Reprint.)

Rhinology in the Past and of the Future. An Address delivered before the American Rhinological Association, on October 5, 1886, at St. Louis, Mo. By Carl H. Von Klein, A.M., M.D., of Dayton, Ohio. Chicago, 1886. (Reprint.)

Sterility. Management of the Secundines. By William H. Wathen, M.D., Professor of Obstetrics and Diseases of Women and Children in the Kentucky State Medical Society, etc. 1887. (Reprint.)

The National Dispensatory, containing the Natural History, Chemistry, Pharmacy, Actions and Uses of Medicine. Including those recognized in the Pharmacopias of the United States, Great Britain and Germany, with numerous references to the French Codex. By Alfred Stillé, M.D., LL.D., and John M. Malsek, Phar.D. Fourth edition, Revised and Improved, with 311 illustrations. Philadelphia: Henry C. Lea's Son & Co.

## Original Articles.

"IS THE DANGER FROM POST-PARTUM HÆMORRHAGE INCREASED BY THE USE OF ANÆSTHETICS DURING PARTURITION?"<sup>1</sup>

BY FORDYCE BARKER, M.D., LL.D., OF NEW YORK.

THE affirmative answer to the question which forms the title of this paper was one of the most effective arguments urged against the use of anæsthetics in midwifery, nearly forty years ago, by men of such obstetrical eminence as Tyler Smith, Robert Barnes and many others. It carried great weight, as it seemed obvious that an agent which paralyzed sensation, and if carried to its full effect, equally paralyzed voluntary motion, must inevitably arrest that muscular contractility which is the essential condition for preventing post-partum hæmorrhage.

The influence of this impression is seen in the fact that nearly all works on obstetrics, even by the most recent authors and many writers in medical journals, refer to the danger of anæsthetics in causing post-partum hæmorrhage. Barnes, for example, speaks of anæsthesia, induced by chloroform or ether, as among the most efficient causes of post-partum hæmorrhage. These warnings work for good in so far as they lead obstetricians to take those precautions, which I believe to be a duty in every case of labor, to prevent this appalling accident; for it is my firm conviction that no woman under the care of a watchful, prudent and competent obstetrician ever ought to die from post-partum hæmorrhage, due solely to uterine inertia or ataxy.

This paper will only refer to hæmorrhage from this cause, as no one will assume that anæsthetics can produce these local lesions which we all know sometimes cause terrific and even fatal hæmorrhage.

No one can doubt that either chloroform or ether may be given to an extent so far beyond anæsthesia as to induce profound narcosis; or that if the uterus be suddenly evacuated while in this condition, there would be a temporary paralysis of the organ, with a loss of power to contract and close the open mouths of the utero-placental vessels.

The real question is whether anæsthetics, properly administered, should be withheld from a woman in labor, when desirable to save her from unnecessary suffering on account of the danger of their causing post-partum hæmorrhage.

I may here say that I have long regarded chloroform as the safest and best anæsthetic in obstetrics, and that since 1850 I have used no other.

My reasons for this preference are briefly these:

*First.* Its odor is to most persons much more agreeable, and it is much less persistent. When sulphuric ether is used, it frequently at first produces more or less irritation of the fauces and bronchi, and an annoying cough or choking is excited. The effect of this is bad, both on the patient and on the surrounding friends. It excites apprehension which more or less tends to counteract the influence of the agent.

*Second.* The influence of chloroform is much more rapid, and a much less quantity of this agent is required than of the ether. We are thus saved, in a great majority of cases, the preliminary stage of excitement which the ether produces, and we are able to use the

chloroform for each recurring pain, the patient in the interval being comparatively free from the influence of the anæsthetic. Thus in the aggregate, not only is a much less quantity of the agent required, but the patient is exposed to the danger from the anæsthetic, if any danger there be, for a much shorter period of time.

*Third.* By chloroform we are able to regulate the degree to which we may desire to carry anæsthesia with a certainty and security that are not possible with the ether.

*Fourth.* The danger from anæsthesia by ether, where disease of the kidney exists, first pointed out by my friend Dr. Thomas Addis Emmet, and now confirmed by several observers, has not been noted by any one as resulting from the use of chloroform.

We all know that the great security against post-partum hæmorrhage lies in the efficient and permanent contraction of the uterus after delivery.

While we are constantly meeting in obstetrical literature with the statement that the danger of post-partum hæmorrhage is increased by the use of anæsthetics, I have never been able to find any statistical evidence in proof of the assertion. What is termed uterine inertia is often but another name for uterine exhaustion, and this must certainly be much less likely to occur when the nerve force and vital powers have been saved by the use of an anæsthetic.

This uterine exhaustion may be and often is the result of a prolonged labor, and while I am convinced that the effect of chloroform is often to prolong labor, I have not been satisfied that this apparent objection was not more than counterbalanced by the advantages obtained by its use, even where the use of the forceps has been made necessary from this cause.

But in a large majority of patients my experience would lead me to the conviction that the use of chloroform shortens the labor. I am certain that it does in all those cases where the pains are diminished or suspended by extreme sensitiveness and fear of pain—by vivid moral impressions of hysteria—or by pains resulting from the coincidence of some malady, either existing antecedent to, or appearing during labor, such as rheumatism of the uterus or other muscular tissues, or sharp pains in the back or abdomen distinct from the pains from uterine contractions, gripings in the intestines, or the cramps which are occasionally produced by the pressure of the child's head on the sacral nerves, and finally, in all those cases where inefficient uterine action results from loss of sleep and extreme exhaustion from a prolonged first stage, and in many cases where the labor is retarded by rigidity of the os uteri or perineum. Thus on the whole I am obliged to state my conviction that chloroform accelerates labor in a greater proportion of cases than it retards it.

I have attended a number of patients who, in previous labors have had their lives endangered by post-partum hæmorrhages and who were placed under my care for this reason. All these cases I have watched with the greatest anxiety, and have endeavored to see that they were in such a condition as would best prevent the occurrence of this accident after delivery. On questioning them or their intimate friends, or where practicable, their former medical attendant, I have learned that their previous labors have almost invariably been followed by great prostration, and that when labor was completed they were in a state of

<sup>1</sup> Read at the Medical Society of the State of New York, Albany, February 1, 1887.

almost extreme exhaustion. A peculiar idiosyncrasy or a former tendency to hæmorrhage or an extreme feebleness of the patient has been assigned as the reason why chloroform had not been given in former labors; the very reasons why I should consider this anæsthetic, properly and watchfully administered, as especially indicated. Such patients have generally remarked to me, when they have come out from the influence of the anæsthetic, "How different I am from what I ever was before, after confinement." They take nourishment and stimulants, if need be, and I then feel warranted in assuring them that all danger of "flooding" has passed, but I never leave them until I am certain of the fact. When I do leave, I give emphatic directions to the nurse, for close watching and minute instructions as to what she shall do if there be the least threatening of hæmorrhage.

Some years ago this subject came up for discussion incidentally before the American Gynecological Society,<sup>2</sup> in which one of my most valued friends, and certainly one of the most able writers on certain obstetrical subjects, expressed great surprise at statements of mine like those just made, for the previous winter I had been called to see a case in consultation with him on account of post-partum hæmorrhage which he regarded as due to the inhalation of chloroform. At the time, from the history then given, it was my conviction that the hæmorrhage was the result of a very inefficient and partial use of the anæsthetic, as the patient, a very nervous, excitable woman, was extremely intolerant of pain, and, in consequence, she never called to her aid the accessory muscles, and after several hours he was obliged to use the forceps. The hæmorrhage which followed was the result of uterine exhaustion, due partly to emotional causes, and partly to the fatigue of a prolonged labor. Three years after, by reason of the death of my friend, I attended this same patient in her second confinement. She was so sensitive to pain which bore no relation to the force of the uterine contractions, that early in the labor I gave her ten drops of Magendie's solution with the effect of quieting her, but regular labor pains did not follow.

She was extremely apprehensive of danger from the inhalation of chloroform. After watching her ineffective labor for some hours, I persuaded her to make only one full inspiration of chloroform to relieve the next pain. She was ready to make two inspirations with the next, and three with the next, and soon came under its full influence during the pains, but was perfectly conscious for a moment or two during the intervals; until with the return of a pain she would very impatiently call for the chloroform. After this the labor went on regularly and rapidly, so that the child was born within one hour after she commenced the inhalation of the chloroform, and the delivery was followed by perfect uterine contractions and no hæmorrhage. Her convalescence was in every respect most satisfactory.

In the discussion before alluded to, my friend expressed the opinion that danger of hæmorrhage did not follow the use of sulphuric ether. I have never seen hæmorrhage follow the use of either agent (I have never used ether in obstetric practice since 1850), but I should reason *à priori*, that an agent which paralyzed the nerves of the uterus, and thus prevented its permanent contraction, would be dangerous in

exact ratio with the continuousness of the effect, and that an agent from which the extent of the anæsthesia is perfectly under the control of the administrator, and the effect of which is intermittent, and which is only used during the time of pain, would be safer.

The danger of post-partum hæmorrhage in patients with cardiac disease is known to all. It seems to be almost accepted as an axiom with both the profession and the public that the inhalation of chloroform is dangerous for any women with "disease of the heart." For more than thirty years I have been convinced that this opinion is quite erroneous, and I have so taught in my lectures and in former writings.

In March, 1853, I was called to see the wife of a physician in this city in her fifth labor. I had seen her once before, the latter part of the previous December, with the late Professor Chandler R. Gilman, to decide as to the propriety of the induction of premature labor, as she was suffering from severe cardiac troubles.

She had been repeatedly examined by Dr. Alonzo Clark, whose diagnosis was, great dilatation of the left ventricle and mitral insufficiency. We were then in full accord that the induction of premature labor would be unsafe. When labor came on, I was sent for, as Dr. Gilman was ill. When I saw her, she had been in the second stage of labor, as her husband said, about one hour. The first stage had been nearly four hours, unattended by any symptoms to cause grave anxiety, but when the expulsive pains began, her condition became rapidly bad. Each pain, which recurred every six minutes, caused faintness, nausea, and slight vomiting, but the pains were much more severe in the chest than in the uterus. Her appearance was appalling, the countenance was extremely pallid, the lips and fingers were cyanosed, the face was covered with large drops of perspiration, and the pulse very weak and irregular. The os was nearly dilated, very soft and yielding, the membranes protruding, but the pains were ineffective. After watching her for a few moments, I regarded her condition as perfectly hopeless, and proposed chloroform, solely in my own mind, with the hope of euthanasia. Her husband would not consent to this, making the objection that she could not bear an anæsthetic, as she had once inhaled ether to have a couple of teeth extracted, with very dangerous results. I then gave her five drops of Magendie's solution of morphine, which was followed for a time by some improvement. But soon after her condition became as bad as before, until I could not bear to witness her suffering any longer, and avowed my intention of leaving, as I could be of no service. Her husband begged me to stay, adding, "Do what you think best, and God help you."

The few moments that we had to wait before the chloroform could be obtained, seemed to me so many hours, which I passed in trying to get her to swallow some brandy and water, to which she had a great aversion, and in explaining to her exactly *how* I wished her to inhale the chloroform, I began by giving her a few whiffs first, as an impending pain was apparent, gradually increasing the amount until she became unconscious during the pains. She was always conscious sometime during the interval after each pain. After a short time, a wonderful change was apparent, her pulse became regular and stronger, while her husband, who frequently counted it, said that it never

<sup>2</sup> Transactions, Vol. VII, p. 78.

exceeded 96 a minute, while before my arrival it had been 140 in the intervals, but could not be counted during the pains. Her countenance improved in color and assumed a most placid, contented expression.

During the pains there was no voluntary assistance on the part of the patient, and but slight aid from the accessory muscles. After she had been taking the chloroform an hour, the membranes ruptured, and, finding the head low down in the pelvic cavity, the position favorable, and the soft parts yielding, I said to the husband, "What is the use of letting her suffer more fatigue? The forceps can be applied with great ease, and may shorten the labor two or three hours." It was applied without changing her position in the bed, and in a few minutes she was delivered of a living girl weighing six pounds and a half. She made a very good convalescence.

In January, 1856, I again attended this lady in confinement. For the three months previous, I had seen her often and had endeavored to lessen the labor of the heart by improving the character of the blood which it circulates by such medicines as the tincture of the chloride of iron, the chlorate of potassium and digitalis. The labor was short and comparatively easy, under chloroform and delivery by the forceps. She outlived her husband three years, but died in July, 1860, from Bright's disease and her cardiac trouble.

Since this case I have seen several others, in which labor was dangerously complicated with heart troubles and which terminated favorably as I think, solely from the use of chloroform.

As far as I know, these views which I have long taught, had been advocated by no author, until the publication of the valuable work by Dr. Angus MacDonald, of Edinburgh, in 1878. His explanation of how the uterine contractions of the second stage, where heart trouble exists, cause the dangerous symptoms of violent palpitation, dyspnoea, syncope, etc., is most satisfactory to my mind.

I find the following sentences in the most recent work on obstetrics, a most interesting and valuable text-book by Dr. Parvin.<sup>2</sup> "Vergely, quoted by Dutertre, states that cardiac diseases do not forbid the use of an anæsthetic in labor and chloroform acts as a sedative in these affections, and may be given prudently. Barr believes that obstetric anæsthesia has a beneficial sedative action upon the heart."

An interesting paper on this subject, by Dr. J. L. Owen, appeared in the *New Orleans Medical and Surgical Journal*, in 1881.

There are so many important papers to be read before the Society that it would be wrong for me to occupy its time longer. I will therefore close with a statement of my personal experience in the use of chloroform in parturition.

During the past thirty-seven years I have rarely attended a woman in confinement without the use of chloroform, never where she has suffered considerable pain. Having thus used it in several thousand cases, I unhesitatingly assert that not in a single case have I ever found cause to regret its use.

In addition to my own experience, I have carefully watched for all that has been published on this subject, and I am fully in accord with an eminent authority on obstetric anæsthesia, Dr. J. C. Reeve, of Day-

ton, Ohio, in his assertion that<sup>1</sup> "the most rigid scrutiny, inspired by hostility, has failed to show that, when judiciously used, it exerts any injurious influence on the mother or child."

"Chloroform has been used in natural labor many hundred thousands of times, yet but a single case of death is on record when it was administered by a competent medical man, and of this there is lack of post-mortem confirmation." I will add that in this case the death was preceded by a convulsion.

In my private practice I have never had but one case of post-partum hæmorrhage, and in this, no anæsthetic had been used, as the child was born within five minutes after I entered the room, before I had time to make any examination, and a terrific flooding followed.

## RECENT PROGRESS IN LEGAL MEDICINE.<sup>1</sup>

BY F. W. DRAPER, M.D.

### ON DEATH BY HANGING.<sup>2</sup>

Dr. Pellereau reports his observations on death by hanging and on the anatomical appearances which result therefrom as he has noted them in fifty-six cases, suicidal and judicial, in the course of his official duty as jail-physician at Port Louis in the Mauritius Islands. Judicial executions are managed there as in England, by means of a drop of eight feet through a trap, the knot being placed under the chin of the condemned. When the drop occurs, the criminal makes no articulate sound; there is, at first, absolute immobility of very short duration during which no pulse is felt and no heart-beat is perceptible. Then follows a tetanic rigidity of the whole body, succeeded at once by energetic spasms. Loss of consciousness is evidently instantaneous, because in every case there is a complete dislocation of the atlas upon the axis. The convulsive movements are never wanting and they would be more conspicuous if the elbows and knees were free and not pinioned. Coincidentally with the convulsions, one hears a rattling sound produced by the movements of the tongue and of the respiratory muscles. Saliva in abundance, more or less blood-stained, escapes from the mouth and oozes through the black cap which covers the criminal's head. The bladder and rectum sometimes expel their contents meanwhile. These various phenomena may be divided into three well-marked periods: a period of immobility, one of tetanic rigidity and one of clonic spasms. They last altogether from two to three minutes,—not more than five minutes at the longest. Then everything relapses into the most complete inertia, and it is impossible to provoke the least reflex action. The author does not credit the notion that erotic sensations are experienced.

The position in which the bodies of suspended suicides are found is almost always vertical; often the feet rest on the floor or ground, more rarely the knees are bent so as to take the weight of the body, but the horizontal position has not occurred in the writer's experience. The head is most frequently found bent forward, the chin resting on the breast; the position depends greatly on the place of the knot

<sup>1</sup> Concluded from page 113.

<sup>2</sup> *Annales d'Hygiène Publique et de Médecine Légale*, August, 1886, page 108.

<sup>2</sup> *Science and Art of Obstetrics*, by Theophilus Parvin, M.D., LL.D., page 232.

<sup>4</sup> Wood's Reference Handbook of the Medical Sciences Anæsthetics page 103.

and on the number of turns of the cord about the neck. Cadaveric rigidity appears late, develops slowly and continues long. Animal heat is retained to an unusual degree. The countenance is sometimes calm and pale, sometimes swollen and livid with the eyes injected and prominent; the pupils are generally dilated. Ophthalmoscopic examination of the interior of the eye gives no results worthy of note. The tongue is often in its normal position behind the teeth; when it is protruded it is more or less swollen, dry and blackish, with fissures at its edges and tip. The escape of saliva from the mouth is essentially a vital act and is an important sign of death by hanging. The lower extremities are more or less livid and petechial spots are observed which, on section, are found to contain coagulated blood, thus indicating that the suspension was during life. The emission of spermatic fluid is not to be regarded as pathognomonic.

The neck invariably shows a groove made by the cord, and, except in judicial hangings, it is always deepest in front. The color of the furrow is uniformly red or brownish, according to the complexion of the deceased. Generally, there is neither excoriation nor ecchymosis in its course. Its direction is always oblique. Its situation is above the larynx. Its depth is determined by the duration of the suspension after death. Its diameter may be a little less than that of the cord.

Among the internal appearances, the author noted the following: In exceptional instances, one finds a small number of punctate ecchymoses under the skin of the face and neck, in the subcutaneous connective tissue and in the deeper structures; they are most marked in judicial executions. In the writer's experience, subconjunctival ecchymoses and fracture of the laryngeal cartilages were not present. Immediately after the suspension, if the body is cut down at once, the subcutaneous and deep tissues of the neck under the course of the cord are without a trace of depression; later there is a slight groove corresponding with the external furrow. In the author's cases, the intima of the carotids always escaped injury. The blood was generally black and fluid. The larynx often contained froth more or less blood-stained; the presence of morsels of food in the larynx is regarded as an important sign of suspension during life. The lungs were usually increased in volume; they were of a uniform red color and sometimes presented, either on their surface or in their substance, small, dark apoplectic nodules; punctate ecchymoses were not observed; at the base and edges were limited areas of superficial emphysema. The heart was nearly always found firmly contracted on its left side; its right cavities were distended with blood. In rare cases, there were punctate ecchymoses along the coronary veins. The liver sometimes presented hemorrhagic nodules in its substance. The small intestines were always deeply reddened. The stomach was oftenest found pale.

In judicial executions, the tissues in the vicinity of the atlas-axoid articulation were found considerably contused, and almost always, coagula of dark blood lay around the two bones. The ligaments of this articulation were ruptured, thus permitting complete luxation of the atlas upon the axis, and leaving a space between the two vertebrae sufficient to admit the finger. There was no fracture of either bone. The articulation of the atlas with the occiput was unin-

jured. The medulla suffered more or less bruising and tearing by the displacement of the atlas, and sometimes the lesion was so extensive that nothing but *débris* of nerve-elements remained, the organ being reduced to a pulp.

#### HUMAN FOOT-PRINTS.<sup>2</sup>

Upon the occasion of a murder, near the body of the victim of which were found, on the floor, seven impressions of a naked and bloody human foot, Dr. Masson made a special study of foot-prints, to settle the question whether the marks discovered were made by one and the same foot, and so by one person only. He found that the same foot would give foot-prints with very different dimensions, according as it was used in standing or walking, corresponding with the two essential functions of the foot, as an organ of locomotion and of support. In walking, there are two clearly-defined motions: The first, in which the weight of the body comes upon the heel, the forward part of the foot acting simply to maintain equilibrium; the second, in which the weight bears wholly upon the toes and the metatarsal articulations. In the second part of the motion of walking, the foot is lengthened from nine to twenty-three millimeters. The height of the plantar arch, while differing in different individuals, varies but slightly in the same foot in different positions; it is lessened a little in the act of walking. An added weight of twenty kilogrammes carried by the subject of the experiment does not modify materially the shape and size of the foot-prints made in walking.

It appears to the author impossible that two human foot-prints should closely resemble each other unless the same foot has made them. The impression made by a foot discloses such clear characteristics; the distinctive marks under differing conditions are so numerous; the foot-prints of the same foot are so alike under dissimilar circumstances, that an attentive expert, having good foot-prints to study, ought to arrive at clear and precise conclusions. The toes, the great toe especially, leave marks that should be examined attentively; these, and the outline of the digito-plantar depression, the line which defines the plantar arch, are the data for a diagnosis.

The author's conclusions are:

- (1) The dimensions and the shape of foot-prints made by the same foot vary with the attitudes taken.
- (2) The two extreme and characteristic types are represented by impressions made by the foot in walking and in standing.
- (3) The expert called to study the matter of foot-prints should always take impressions of the foot of the accused in the act of standing and of walking, and should compare only those which correspond with the same attitude.
- (4) In connection with the measurements made, one should always consider the points which throw light upon the individual characteristics of the foot.

#### THE MEDICO-LEGAL SIGNIFICANCE OF HÆMATOMA OF THE STERNO-MASTOID IN NEW-BORN CHILDREN.

Küstner<sup>3</sup> discusses the mode of origin of hæmatomata in the sterno-mastoid muscles of new-born children, and combats the view that they are always due to excessive traction of the neck. He relates a case of labor with breech presentation, no assistance of any kind being

<sup>2</sup> *Annales d'Hygiène et de Médecine Légale*, October, 1886, p. 226.  
<sup>3</sup> *Centralblatt f. Gynäkologie*, No. 2, 1886; *Amer. Jour. of Med. Sciences*, July, 1886, p. 292.

afforded; yet a hematoma appeared in the left sterno-mastoid, thus suggesting the inference that the accident may attend a perfectly normal labor.

Kistner also records some experiments made on still-born fetuses, in which a row of pegs was inserted into the sterno-mastoid, and the neck was then stretched and rotated in various directions. He found that neither lateral flexion nor stretching of the neck had much effect upon the sterno-mastoid, the pegs showing no separation; but torsion of the neck had a decided effect on the muscle, especially when the face was twisted toward the side under observation. He believes that a similar movement during labor is a cause of hematomata, for torsions of the neck are well known to be of frequent occurrence even in the ordinary mechanism of parturition.

The following conclusions are reached by the author: (1) Hematoma of the sterno-mastoid is caused not by stretching or extension, but by twisting of the neck.

(2) Since the neck may be twisted even in spontaneous delivery, a hematoma may arise in simple cases, both of vertex and breech presentations.

(3) The occurrence of a hematoma, therefore, does not prove that criminal or instrumental violence has been resorted to.

### Clinical Memorandum.

#### POISONOUS ARSENICAL WALL-PAPERS.<sup>1</sup>

BY JAMES R. CHADWICK, M.D.

In the presence of so many chemical experts and learned general practitioners it would be presumptuous in me to attempt to treat this subject systematically or exhaustively. Moreover, my purpose in opening this discussion is to present, by fresh instances, to the public and profession, the dangers to which every citizen of this Commonwealth is exposed by the manufacture and sale of papers for our walls so charged with arsenic as to produce characteristic symptoms of the poisoning by that mineral in the persons occupying the rooms thus papered. The Legislature of this State last winter failed to pass a bill prohibiting the use of arsenic in the coloring of wall-papers, so that the only means by which we can save ourselves from this poison, is to disseminate so full an appreciation of our danger throughout the community as to cause every individual to protect himself and his family. This end can only be attained by the publication, by every one who has suffered, of the exact circumstances attending his experience, together with the names of the dealers retailing the papers and the chemists who have analyzed them. This I shall aim to do without animosity to any individual, but with the single purpose of making every one feel more keenly than they now appear to do the responsibility for the lives and health of our wives and our children.

In September, 1885, Messrs. J. F. Bumstead & Co. put upon my nursery and one sleeping-room new papers, which they assured me had been analyzed and pronounced free from arsenic. In the nursery slept a boy of four years and a nurse, in the chamber slept a girl of thirteen, in a third room, not then re-papered, slept two other children. All the children passed several hours of every day in the nursery. During

the winter of 1885-86, the boy and nurse remained in good health, the girl of fourteen, however, suffered much, for the first time in her life, from dyspepsia, colicky pains and headaches; the younger of the two girls had many attacks of palpitation of the heart, lost color and strength; the other girl kept in good health. The symptoms in the two affected girls yielded somewhat, but never fully, to treatment. During the summer of 1886 they regained their health and strength at Mt. Desert; within a month of their return to their home many of the old symptoms reappeared. About the first of December the attacks of colicky pains became more severe and frequent in the two affected girls and were attended by vomiting and diarrhoea.

My attention was then aroused and I set about to discover a common cause for all these similar symptoms. Having suffered severely in past years from the poisoning of my family by arsenic, I naturally thought of that possibility and sent samples of the papers most recently put upon the walls (nursery and small chamber) to Prof. E. S. Wood for analysis, and received the following reply:

"BOSTON, December 10, 1886.  
"The enclosed paper (from the nursery) is very arsenical. I should advise its removal. The other was all right, non-arsenical."  
EDWARD S. WOOD."

I was naturally in a state of great indignation that, despite my care, I should have had put upon the wall of my nursery a paper which contained a dangerous amount of arsenic. I wrote at once to J. F. Bumstead & Co., asking the name of the chemist who had made the analysis for them. The reply was as follows:

"BOSTON, December 13, 1886.  
"DR. JAMES R. CHADWICK,  
Dear Sir,—The paper about which you enquire was analyzed by Prof. S. P. Sharpley and by him pronounced "free from arsenic."  
Yours truly,  
"J. F. BUMSTEAD & Co., per HENRY."

It happened that a week previous to this correspondence my wife had taken a friend to the store of J. F. Bumstead & Co., where he had purchased several hundred dollars' worth of papers for a newly-erected house in California. On the same evening I questioned my wife closely as to whether she had been careful to select only papers that were free from arsenic. She said she had insisted upon that point with Mr. Bumstead himself, and had been told that only those papers would be shown her which had been analyzed and pronounced to be free from arsenic. I asked if she had inquired who their chemist was, to which she replied that Mr. Bumstead had told her that their chemist was a Professor Hills. As I knew that this could only be Prof. Wm. B. Hills, of the Harvard Medical School, I felt assured that the papers were safe. A week later, however, on discovering that my own paper was arsenical, and feeling responsible for my friend in California, I went to the store of Bumstead & Co., and demanded to see the reports of Professor Hills upon the fourteen papers selected by my friend. I was told to call the next day when they would be shown me. I did so, and then found that all the papers had been (owing to a misunderstanding) sent to Professor Hills for analysis since my visit the previous day. One of them had been pronounced by him to contain "considerable arsenic," and another a "small amount," both being regarded as more or less dangerous to health. The others were all practically free from arsenic. On asking upon

<sup>1</sup> Read before the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, January 12th, 1887.

whose certificates the two first mentioned papers had been supplied as "free from arsenic" I was shown the certificates of Prof. S. P. Sharples.

In order to confirm the presence of arsenic in dangerous amount in the three papers about which the reports were conflicting, I have since had each of them analyzed independently by Prof. E. S. Wood, Prof. W. B. Hills, and Dr. Chas. Harrington, all of the Harvard Medical School, with the result of perfect concurrence as to finding arsenic in dangerous amount.

But little comment is needed on this recital of facts. It is, however, but just to Mr. Bumstead to say that I fully exonerate him from any intent to mislead my wife with regard to the analyst of the papers supplied to my friend. His statement that Professor Hills is now his analyst is true, yet I think I am right in pointing out to him that his reply was so framed as to be misleading, because the papers he was offering for sale had many of them, as is manifest, been analyzed in previous years by other chemists.

I may say, in conclusion, that it makes no difference whether the symptoms manifested by two of my children be adjudged by those present as due to arsenic or not; if I demand papers free from arsenic I ought to be able to obtain them. My own belief is that the symptoms are attributable to that cause, and that the exemption of the nurse and two other children, though in two instances more constantly exposed to the influence, was attributable to the fact that they were less susceptible to the poisonous effects of arsenic. I pass around samples of the papers with the arsenical mirrors obtained by the Berzelius-Marsh test.

I should add that the two affected children have had no symptoms since the paper in my nursery was removed a month ago.

### Reports of Societies.

#### MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

JANUARY 12, 1887. The meeting was called to order at 8 o'clock by DR. F. I. KNIGHT, Chairman. On motion, the reading of the records of the last meeting was omitted. The Chairman announced the subject for the present meeting to be a debate upon the danger to the public from

#### ARSENICAL WALL-PAPERS,

and called upon Dr. J. R. Chadwick to open the discussion.

DR. CHADWICK, in response, presented an interesting and vivid account of the occurrence of arsenical poisoning in his own family<sup>1</sup> on several distinct occasions, and spoke of the uncertainty which exists in relation to the presence of arsenic in wall-papers, even when the dealer presents the certificate of a chemist as evidence that the papers are free from this dangerous substance. At the close of his remarks, Dr. Chadwick offered the following resolution:

*Resolved*, That it is the opinion of this meeting that the clinical evidence already adduced in this and other countries establishes beyond doubt the fact that arseni-

cal wall-papers will, in many instances, produce symptoms of poisoning by arsenic in persons occupying the rooms whose walls are covered by such papers.

The resolution was seconded, and was then declared open for discussion.

The Chairman introduced MR. N. W. BUMSTEAD, the well-known paper-dealer, who was invited to address the meeting. Mr. Bumstead responded by saying that he did not desire to occupy the time of the members to any great extent. In all large establishments there are many persons employed, and the facts in regard to the purchase of paper by Dr. Chadwick are that Mr. Bumstead did not personally exhibit the papers, but a salesman in the service of the firm was the person who made the transaction. The statement was made to the purchasers that no papers would be shown except such as had been pronounced by chemists of repute to be free from arsenic, and such was the fact.

It is desirable that the position of the paper-dealers should be placed before the profession in a more correct light than is at present the case. The efforts and desires of the dealers are directed toward the elimination of all articles from the colors and other processes of manufacture of wall-papers supposed to be dangerous, and the substitution thereof of equally useful, but unobjectionable methods of manufacture. Personally, the paper-dealers do not place credence in very many of the alarming reports which are, from time to time, circulated in relation to the occurrence of dangerous interference with health from the action of the colors used in wall-papers. It is both a mistake and an injustice to suppose that the dealers do not take pains to have their wares examined in relation to their safety. Messrs. Bumstead & Co. have had four different chemists in their service during the last twelve years. The intention was to exclude objectionable papers from the business. About two or three years ago, an agreement was made between some of the wall-paper manufacturers and Mr. Bumstead that they should take back all arsenical papers. After a trial, the manufacturers declined to continue the arrangement on account of the great frequency of rejected papers; but lately they again consented to receive all papers returned to them which contain more than a trifling amount, called a trace, of arsenic. A portion of the present disturbance in regard to arsenical papers arises from the fact that many of the papers now examined are such as were manufactured some years ago, and some of the papers have been for years on the walls of inhabited rooms, where they have produced no appreciable symptoms of poisoning until the present excitement was inaugurated. The occurrence of arsenic in these accidental ways should not be looked upon as fairly representing the paper manufacture at the present time.

DR. C. E. STEDMAN said that he had little to offer to the remarks of those who had preceded him. Some years ago he purchased wall-paper from a firm now gone out of trade, and it was put on the walls of his house. For two or three years the occupant of that room was continually ill, the symptoms being a persistent diarrhoea, with colicky pains, etc.; and finally, a severe form of eczema supervened, for which various forms of treatment were ineffectually tried, and at length the patient was placed under the care of Dr. Wigglesworth, of this Society. At a later period, Dr. Stedman for a time occupied the room in question as

<sup>1</sup> See page 129 of the Journal.

a sleeping-room for himself, and soon became ill, suffering from an obscure form of ocular disease, for which he consulted Dr. Wadsworth, of this Society. After some time, Dr. Wadsworth suggested the possibility of arsenical poisoning, and that the wall-paper might be the source of the trouble, when the paper was subjected to chemical analysis, and was found to contain a large amount of arsenic. The paper was at once removed from the walls, and a paper substituted which contained no arsenic, since which time there has been no recurrence of the symptoms of poisoning, or, in fact, any other signs of impairment of health in any member of the family.

PROF. D. G. LYON, of Cambridge, was called upon by the Chairman, and said that on the 19th of January last he caused the publication of a long account of the troubles which had occurred in his house and family, for which, in his mind, there existed no cause, except the arsenical paper on the walls of his house. His family consisted of three members, Mrs. Lyon, himself, and another instructor in the University. They were all affected by a variety of distressing symptoms, one of which was persistent insomnia. It was almost impossible for any member of the family to sleep at all. In addition to this, a common symptom was pain in the head, palpitation, general debility, etc., which proved refractory to all methods of treatment for its relief. Physicians were called, but were not able to alleviate the distressing conditions, which now began to cause serious alarm. Professor Sanger was consulted, and he examined the furnace, sewers, etc., but being unable to locate the trouble in either of these parts of the household apparatus, he at length suggested the possibility of the wall-paper being the agent which had operated so disastrously upon the family. This was immediately submitted to chemical analysis, and yielded a large amount of arsenic.

"I had recently read," continued the speaker, "the admirable paper of Professor Wood on the subject of 'Poisoning from Wall-Papers,' and observed that the symptoms which he there recorded were almost identical with those experienced by the members of my family, from circumstances similar to those surrounding the cases mentioned in the article by Professor Wood.

"Four rooms were covered with paper containing extremely large quantities of arsenic, as determined by chemical analysis. The papers were at once removed, and the walls re-covered with papers which were free from arsenic, and the immediate result was the entire and rapid disappearance of all the symptoms of disease which had so long existed, and which had thus far been quite unaffected by any form of remedial treatment.

"Chemical examination of the wall-papers of different dealers, a year ago, showed that more than fifty per cent. of the papers in the stock of the Boston dealers contained a much larger amount of arsenic than the bill at that time presented before the Legislature asked for. The manufacturers claim that a law which should limit the amount of arsenic contained in wall-papers would seriously affect their trade, and that certain forms of papers cannot be produced without the aid of arsenic, or, at least, without the use of substances in which arsenic may exist. Within a stone's throw of my house in Cambridge are families which have suffered more than my family did. In all parts of this Commonwealth, cases of poisoning from the

use of arsenical papers are known, and the appeal of all these people is only for a law by which they may be protected from a danger which they have no means of recognizing for themselves. Those people who bought wall-papers in Massachusetts, and especially in Boston, a year ago, assumed a serious risk to the health of their families, from the almost universal presence of arsenic in the wall-papers of that time. I could report more than forty families thus affected from this cause."

PROF. E. B. YOUNG said that he has never appeared before the legislature, nor has he ever published anything in the papers in relation to the dangers from arsenic. He has been a long but silent sufferer from the effects of poisoning by arsenic in wall-papers in his house. In his case the symptoms were a palpebral inflammation of both eyes with continual lassitude, weakness, etc. His daughter, formerly strong and robust, became weak, languid and feeble. Professor Young himself was not well. The occurrence of such an amount of sickness in his family without adequate cause made him anxious. He employed men to overhaul the sewers of the house, but the drainage was found in good condition. At this time Professor Lyon suggested the possibility of arsenic as the cause of their discomforts and the papers of the house were at once subjected to analysis. In a light blue paper arsenic was found to the extent of 4.97 grains to the square yard. In some English cretonne used for upholstery, there was discovered 4.00 grains of arsenic to the square yard. This had been in service for some time, and had begun to wear, and, with the destruction of the texture of the fabric, the arsenic had become more readily disseminated. The paper of another room contained  $\frac{1}{3}$  grain to the square yard. Professor Young's daughter was much troubled by an affection of the throat, for which she was placed under the care of Dr. Knight, the Chairman of this meeting, and, as she did not improve, she was sent to Dublin, where she began to get better. After a time the urine was examined, and was found to contain arsenic. After the restoration of the house, the daughter's health was again restored, and a letter from her physician who has had the urine again examined, contains the report, "no trace of arsenic in the urine at present." In the dining-room of the house arsenic was discovered in the paper. The result of all this has been to cause a large outlay in money, as well as a great amount of anxiety through a long time; and we feel that we have the right to demand legal protection from this known and recognized source of danger to our families. Nobody claims that arsenic causes *all* the illness in families, but it undoubtedly causes *some* of it. Nobody thinks arsenic does any good in the papers, and it is certainly better out of the way, than to be thus a constant source of possible danger. Another case was that of the daughter of a clergyman of Jamaica Plain, who was ill from an obscure cause, but in whose house the papers were found to contain arsenic. She was quite well soon after the old papers were replaced with non-arsenical ones. Another case was that of an entire family in Cambridge, the name of which would attract attention as belonging to the higher walks of literature, in which there was unmistakable poisoning. Another instance occurred in Milton, where there is a house, one room of which possessed the peculiarity that every person who occupied this particular apartment was certain to

become ill. Each member of the family had in turn occupied this chamber, and each in turn had been similarly affected. The paper from the walls of this dreaded apartment was analyzed and contained a very dangerous quantity of arsenic. An Episcopal clergyman and his wife were both poisoned by arsenical paper not long since. The husband was confined to the bed in the room, and grew worse, while the wife, who was not so ill, but could pass a good portion of the time out of the room, was not so seriously affected. Another well-marked case occurred in Waltham. Perhaps the most amusing fact, however, is that Professor Sanger was himself poisoned last summer at the seashore. He was assigned a room which was papered with highly arsenical paper, and was soon made ill by it. Professor Young then passed specimens of the papers removed from his house, to the members of the Society, remarking that there is absolutely no way in which arsenical papers can be detected excepting by chemical analysis, and that therefore the most careful selection is no protection against this danger.

PROF. WM. B. HILLS, of Harvard University, was then announced, and spoke as follows: It has fallen to me to examine as many papers probably, as to any one in this city, during the past few years, and I now examine for two of the most prominent paper houses in the State. From my experience I am convinced that the present alarm concerning arsenical poisoning from this source is unnecessarily great. The results of analysis during the past few years show this fact conclusively, as the following figures will prove. During the period from 1879 to 1883 the percentage of arsenical papers was from fifty-four to sixty-five per cent. of all papers examined. In 1884 the percentage had fallen to forty-seven per cent. arsenical.

In the first series of figures, those from 1879 to 1883, from thirty-one to thirty-five per cent. of the papers were strongly, or dangerously arsenical. In the second series of figures, the proportion of strongly arsenical papers had fallen to twenty-two per cent. In 1886 there was a large decrease in the arsenical papers, only thirty-three per cent. of all papers examined containing any traces of arsenic. Only thirteen per cent. of these papers contained anything more than a trace of arsenic. These figures are the more startling on account of the extreme delicacy of the Marsh-Berzelius test which was employed in 1886 only; and it appears that the matter is slowly settling itself by the common efforts of the manufacturers and the trade toward satisfying the demand of the public that papers shall be made without the use of dangerous substances. It has been stated in this meeting that all papers are at present still strongly arsenical. This statement is not in accordance with my experience. Most of the papers taken from the walls of rooms are such as were manufactured some years ago, and may naturally be different in chemical composition from the papers made to-day. The fact is that papers now manufactured do not contain a dangerous amount of arsenic. I do not think that it is desirable to appeal to the legislature until we know definitely the present state of the case, and until we know the limit which it is safe to establish in relation to the accidental presence of small amounts of arsenic in the papers. A law to prevent the sale of "Rough on Rats" would save more lives than a law to prohibit the sale of wall-papers containing a trace of arsenic.

DR. H. J. BARNES asked what reason exists for the use of arsenic at all in the manufacture of wall-papers?

PROFESSOR HILLS replied that there is no reason for its use. It is not used intentionally, but exists as an adulteration in some of the pigments employed in the preparation of the paper. It is an impurity in certain of the mineral pigments which have been employed in the manufacture of former papers. Manufacturers are now trying to keep the arsenic out of their colors.

DR. EDWARD WIGGLESWORTH said that he had but little to add to what had been said in relation to the dangers from arsenical papers. He has suffered in his own family of four persons, from this cause. The symptoms were not alike in all, but were clearly traceable to the papers on the walls. A symptom possibly due to the elimination of arsenic from the system and not mentioned by those who had preceded him, was a frequent and violent desire to urinate, with a burning at the neck of the bladder, which ceased as soon as the urine was passed. There was no kidney trouble, no affection of the bladder nor urethra, nor any other condition to account for the distress which was present. His little boy occupied a newly-papered room, and was soon affected with conjunctivitis, coryza, anemia, anorexia, etc. The paper was analyzed and found to be arsenical. His little girl next showed the same symptoms. Dr. Wigglesworth stated that both he and his wife are still ill from the effects of poisoning, and the papers were found to contain from twenty to forty times the amount of arsenic which has been considered the limit of safety. When the symptoms of poisoning first became evident the cause was not recognized, and a journey to the South was made with the result that all symptoms of disease entirely disappeared. On returning, however, the original disturbances again appeared in their former intensity. The paper was removed, and replaced by non-arsenical paper, and the family is now on the way to recovery.

Dr. Wigglesworth next alluded to cases of eczema which had been found to be due to arsenic. A child had been under the best of care before, and nothing in the shape of attention could have been rendered that had not been most conscientiously carried out. When placed under the care of Dr. Wigglesworth, he at once decided that there must be some unsuspected cause for the disease. He went to the house of the patient, who was a dispensary case, and examined the plumbing with great care, and also inspected the premises in other directions. He at length decided to have the wall-paper examined, and it was found to contain arsenic in large amount. The child was removed to another room, and soon became better, but was not well. Upon removing to another house, however, there was complete recovery from all symptoms of disease. The daughter of a medical friend was seriously ill, with symptoms which would not yield to treatment. The paper on the walls was examined and was found to be loaded with arsenic. In the house of a relative is one room which seems to be a source of disease to all who inhabit the apartment. It has proved nearly fatal to two persons, and many more have been ill from occupying it. The cause was not suspected until the paper was examined and was found to contain a very large amount of arsenic.

DR. J. W. HARLOW, of Woburn, was then called

upon by the chairman, and stated that he would attempt to give a report for the Senate, as this matter was developed last year, at the hearing before that body. He would not attempt to speak upon the subject in any other way in the presence of this distinguished company, and all that he intended to say would be directed toward the legislative side of the question. The percentage which was proposed as the limit of safety in papers, was one-fifth of a grain in the square yard. We supposed that this would be sufficiently liberal for all persons, but the bill was not carried through. It seems to me that the physicians are now beginning at the beginning of the matter, and are working in the proper way to succeed in the proposed attempt to secure legislation on this important subject. At the hearing before the Committee from the legislature there was not that sequence of cause and effect, that close relation of the cause to the effect, which has characterized this meeting, and which physicians can so clearly establish, and which is the greatest element of success in an undertaking of this kind. The revelations which were made at the hearing at the State House, last year, were sometimes of a most unexpected and startling character. Some of the members were made to believe that while in Cambridge, Boston and possibly a few other obscure places, arsenic might occasionally be the cause of poisonous symptoms, when contained in large amounts in wall-papers, yet this same arsenic was not poisonous in New York. One gentleman thought that there was no more truth in the theory of arsenical poisoning from this source than there was in the old Salem witchcraft. The only way, and surely the best way, to succeed in the effort to secure a protection from this danger through any action on the part of the Legislature, is by agitation of the matter. Professor Hills states that there is already a notable decrease in the amount of this substance contained in wall-papers ever since the attempt to secure a law a year ago. There is one point in which there is much misapprehension in this whole matter. The claim is advanced that such legislative action as is asked for will have a tendency to oppress a great manufacturing industry. The fact is, that the manufacture of wall-papers is not an industry of this State. By far the larger part of the wall-papers used in Massachusetts are manufactured in New York. I believe that it is essential that a protective law should be passed in this State, which shall establish the limit to which arsenic may exist in wall-papers without being considered dangerous to health. The bill should specify the amount per square yard which the paper may contain without being considered injurious to the health of occupants of the rooms covered with the papers. The bill as heretofore presented was not broad enough to suit some of the advocates of a bill, and it was afterward extended so as to include toys, textile fabrics, candies, etc., which were claimed to constitute a much more threatening danger than that from wall-papers. The law which is asked for should be so drawn as to include all forms of textile and other fabrics, and all domestic appliances and all articles coming under the head of toys, etc., which are so largely distributed among children, and are a source of constant peril.

MR. C. TENNANT LEE, an analytical chemist, was present by invitation, and spoke as follows: The discussion of the subject of arsenical poisoning from wall-papers, which has been carried on here, is of a very in-

teresting character, and the cases are numerous and interesting, but the matter seems to rest on a very insufficient basis, and must certainly be considered as not proven. The cases so often classed by physicians as arsenical poisoning are most generally deduced from defective or careless observation, and are in reality not due to arsenic at all. I have been surprised to see how often I have been consulted in relation to the sanitary conditions of dwellings, in which some dreadful condition was supposed to exist, and have found a defective drain, a leaky closet, or some other hygienic fault, the remedial treatment of which has removed all symptoms of the threatened danger. It is often the case that a foul tank in connection with the furnace will cause serious and sometimes truly alarming symptoms, but these causes are seldom heard of by the physician or the public. The excitement at present in relation to arsenic is due in great part to the fact that the attention of the public is at present directed to this subject, and every one is thinking of it. When the scare about arsenic has abated, the number of cases supposed to be the result of poisoning from this source will become less, and substantially the same immunity from the trouble will be restored as existed before the people were so much aroused by this imaginary danger. Physicians make the mistake of frequently ascribing to arsenic those conditions which are due to quite another set of causes. The cases of arsenical poisoning thus far reported all end in recovery, and the entire history of the present craze is but two or three years old. It is far too early to be certain that these are cures, or that arsenic will produce such a varied series of clinical conditions. An example of the careless way in which physicians often account for strange symptoms by wrong theories was illustrated by a case in which a girl was sick in a room papered with an arsenical green paper. This was removed, but the girl died. Some sensitive persons are poisoned by simply passing by a bed of poison ivy. In a certain family a new carpet was bought, and from motives of economy, the family decided to sew the carpet themselves. Those engaged in this work soon fell ill, but on relaxing their occupation rapidly recovered. On resuming the carpet-sewing, the old symptoms quickly returned. The carpet was now examined by the physician and was found to be "full of arsenic." The carpet was then analyzed by a chemist, and not a trace of arsenic could be found in it.

Rose-aniline is made by reduction of the substance by means of arsenic. The scarlet shirts and stockings which cause so much irritation of the skin, do not, however, contain arsenic. They are colored by nitrobenzole colors, which are not arsenical. The workers in the manufacture of paris-green are said by their employers not to be injuriously affected by the nature of the substance on which they are employed. The skin of the employees is sometimes made raw, but they are not poisoned by the arsenic. There is one other point in which physicians are greatly in error. The opinion is generally disseminated throughout the profession that the arsenic is liberated as arsenuretted hydrogen. This is a great mistake, as arsenic cannot be liberated in any natural way in this form, and therefore cannot be a source of injury to the public in this form.

DR. CHARLES HARRINGTON asked Mr. Lee if he considered that a foul water-box in the furnace, or the

imagination of the patient, or the presence of sewer-air in the dwelling, can produce arsenic in the urine of the affected individual. Mr. Lee replied that he did not know, and asked in reply how it is that so many other causes are followed by symptoms identical with those of supposed arsenical poisoning?

Dr. Harrington said that much about the cases of poisoning by arsenic is not clear; but given a paper which is found to be arsenical, the patient presenting an array of symptoms which are recognized as accompanying arsenical poisoning, and arsenic being found at the same time in the urine of the patient, it seems fair to connect the symptoms with the arsenic.

PROF. HILL, of Cambridge, said that within the last few months he had seen but few cases of poisoning from arsenic, but formerly he had seen a great many of these cases with Dr. Sanger. The idea of establishing a *limit* to the degree to which arsenic may exist in wall-papers seems faulty, from the fact that there is no reason for the use of arsenic at all in the manufacture of wall-papers. There are occasionally substances used in the papers which may possibly contain a trace, but this is too insignificant to deserve notice. In most cases in which the paper is examined, the amount of arsenic is almost nothing or the amount is quite large. There is no medium grade. It is almost nothing, or the quantity is very great. Colors can now be easily obtained which are free from arsenic as an impurity, and those colors should certainly be employed in all papers.

PROF. E. S. WOOD, of Harvard University, was next called upon by the Chairman. He stated that much had been said about the way in which the arsenic is separated from the body of the paper. He thinks the chief danger to come from the dust which is constantly being given off from the paper, and which is contained in the air of the room, by which it easily comes in contact with the mucous membranes of the eyes, nose, and throat. It is needless to say that no color can be pronounced free from arsenic without a chemical analysis carried out in proper form. There is sometimes a discrepancy in the results obtained by different chemists, owing to the faulty tests often employed. No test can be considered as reliable, which does not insure the destruction of the organic matter in the paper tested, as the first step of the operation. There is no necessity that pigments containing arsenic should be used in the manufacture of wall-papers, and the American Wall-Paper Manufacturing Company now manufacture more papers which are free from arsenic than it did a year ago. This can always be secured by the preliminary analysis of the pigments employed. Even in painted walls arsenic may occur, and may produce the symptoms of poisoning. It seems useless to deny the danger of poisoning from arsenical wall-papers, when a person occupying a certain room is made sick; the person recovers on changing the room, and is at once again prostrated on returning to the former room; finally, on removing the paper from the room, or on removing to another house, the patient becomes free from all symptoms of trouble.

DR. R. STURGIS stated that a case of poisoning was known to him, in which the paper had been upon the walls of the room since the year 1873.

DR. HENRY CARMICHAEL, late of the Faculty of Bowdoin College, was introduced by the Chairman, and said that he had been occupied in the analysis of wall-papers during the last ten years, and that the co-

incident illness, the accompanying symptoms, were present at that time in the same form as they are observed to-day. Some of the papers analyzed in Maine contained no less than two and one-tenth grains of arsenic to the square yard. Since the State of Massachusetts has been agitating the passage of a law to limit the amount of arsenical contents in wall-papers, there has been a notable diminution of this substance in the papers analyzed in the State of Maine. There is no protection without analysis. No eye can discern where the arsenic is deposited, and no other means will adequately detect its presence. There is need of a clearer understanding upon another point. When we say that a paper is free from arsenic, what do we mean? If we mean that the paper does not present the indication of minute traces of arsenic, then it has not been my fortune to have discovered any papers free from arsenic. All papers will present the traces of small amounts of this substance, under any circumstances. Some of the ores used among the mineral pigments which are employed in the manufacture of wall-papers often contain arsenic as an impurity. Such is the ore of iron, which is extensively combined in the colors of wall-papers. In this combination the arsenic is absolutely inert, and is quite harmless. In fact this combination is almost identical with the preparation which is used in medicine as the antidote to arsenic in cases of acute poisoning. Another source of error is found in the fact that we are often inclined to lay the harm to the wall-paper when there are other substances from which the poisonous symptoms might occur with fully as much probability as from the paper on the walls, such as the colored fabrics of dress or the decorations or upholstery of the apartments.

DR. F. W. DRAPER spoke of his researches upon the dangers of arsenic to those employed in its use, or exposed to its influence. He said that he did not consult the employers of the men, or the contractors who did the work, but that he went directly to the men themselves. From them he learned that those men whose duty required them to be in the presence of the arsenic, and to handle it, were often sick, and not infrequently were obliged to suspend their labors. It is difficult to understand the statement made by one of the speakers at this meeting that constant employment in contact with so powerful and injurious a substance as arsenic should be without harmful influence upon those so exposed to it.

The Secretary read a communication from Mr. Gregory, a prominent dealer in wall-papers, regretting that illness prevented him from being present at the meeting.

PROF. WOOD suggested that all physicians who have cases of arsenical poisoning from wall-papers should send a sample of urine from the patient, together with a portion of the harmful paper, so that a quantitative analysis may be made, and at length a positive and accurate opinion be gained of the exact amount of arsenic which is capable of producing the symptoms of poisoning. Prof. Lyon said that he could place in the hands of the Society the proofs, in the form of letters, from thirty or forty families who have suffered from arsenical poisoning by means of wall-papers.

DR. G. E. FRANCIS, of Worcester, was then introduced by the Chairman, and after expressing his thanks for the opportunity of participating in the discussion,

said that he felt like offering a word of caution in relation to the accuracy of the opinion that all the disturbances so frequently ascribed to arsenic are in reality due to this cause. Before any further appeal is made to the Legislature we should be prepared to meet our opponents in every direction. Let us suppose that a paper which has been in service for twenty years has at length caused the appearances of arsenical poisoning. The analysis of the paper proves that it contains two grains of arsenic to the square yard. Now the question which must be answered is this: how much arsenic has been lost by the paper during the many years of service, if it still contains so large an amount at present. If the paper, after so long a time, still contains a large amount of the poison, then certainly it could not have lost much during that time; for the arsenic can be in only one place at a time. We should seek to ascertain how rapidly arsenic is dissipated by exposure to the air, and find out the rate at which it leaves the paper. We shall then certainly not be so liable to erroneous opinions and statements as we are at present.

DR. B. F. DAVENPORT stated that the papers of almost any manufacturers may contain arsenic even if the color is absolutely free from any appreciable amount of the poison. There are two principal questions: First, how much arsenic is really present in honest and well-selected papers? The second question is: What is the minimum quantity of arsenic which may induce the symptoms of poisoning? One undoubted form in which arsenic may be liberated is in the form of arsenuretted-hydrogen, from the presence of arsenious acid in contact with moulding substances, which evolve the hydrogen gas. In a case in which suicide was committed by the aid of "Rough on Rats," there was an evident odor of arsenuretted hydrogen on opening the stomach. The limit to which arsenic may be contained in wall-papers has received the attention of chemists all over the world, and only recently Prof. Pettenkofer has suggested that the safety of the public would not be imperilled if the amount of arsenic did not exceed fifty-five one-hundredths of a grain in each square yard.

DR. E. W. CUSHING asked Prof. Wood if there is any method by which a country physician may make an approximate analysis, or at least ascertain if there is any considerable amount of arsenic in a suspected paper?

PROF. WOOD said that the organic matter may be easily destroyed by the addition of a small amount of sulphuric acid, heating until the paper is thoroughly charred, and extracting the charred mass with water; the liquid can then be filtered and submitted to any of the common tests. If it is desirable to obtain the mirror of arsenic in a tube, it is advisable to employ a square decimeter of the suspected paper: if it is desired to produce the mirror upon a plate, a larger amount of the paper will be necessary, and the amount of arsenic required to form a mirror in this way will roughly be about one-tenth of a milligramme.

DR. CHADWICK, in closing the discussion said that he had but little to add to what had been said. He remarked that he would have replied to some of the observations of Mr. Lee, but as that gentleman had left the hall he would not revert to his remarks in his absence. It seems, however, a little like supererogation to be informed that a physician cannot discriminate between the symptoms of arsenical poisoning and

those occasioned by other diseases. Dr. Chadwick believes in continual agitation of this important matter, and hopes it will not be permitted to rest where it is at the present time. With an awakened public opinion, and a proper appreciation of the dangers attending the use of arsenical papers, it will not be difficult to frame a bill at the proper time, which shall cover the requirements of safety, and which the manufacturers will not oppose.

The Chairman then requested the Secretary to read the resolution offered by Dr. Chadwick, after which the question of adoption of the same was put. The vote was unanimous in favor of adoption of the resolution.

Adjourned at 10.20 o'clock.

#### MASSACHUSETTS MEDICAL SOCIETY.

##### COUNCILLORS' MEETING, WEDNESDAY, FEBRUARY 2.

A stated meeting of the Councillors was held at the Medical Library, Boston, on Wednesday, 2d inst.

The meeting was called to order at 11 A. M., by the President, DR. THOMAS H. GAGE. Sixty Councillors indicated their presence by signing the roll.

##### APPOINTMENT OF DELEGATES AND COMMITTEES.

On nomination by the Chair, the following delegates to other State Medical Societies were appointed:

*Maine:* Drs. R. T. Davis, of Fall River; J. A. Douglass, of Amesbury.

*New Hampshire:* Drs. J. M. Harlow, of Woburn; E. B. Harvey, of Westboro.

*Rhode Island:* Drs. J. H. Mackie, of New Bedford; Z. B. Adams, of Framingham.

*Connecticut:* Drs. J. P. Reynolds, of Boston; F. K. Paddock, of Pittsfield.

*New Jersey:* Drs. J. G. Park, of Worcester; J. Seaverns, of Roxbury.

Committees were appointed:

*To Audit the Treasurer's Accounts:* Drs. A. L. Mason, A. Wood.

*To Examine the By-Laws of District Societies:* Drs. S. D. Presbrey, J. C. White, F. W. Chapin.

The Committee on Membership and Finances reported names of Fellows to be allowed to resign, to retire, and also to be dropped for non-payment of dues, and their recommendations were adopted.

The President offered a very appropriate and feeling tribute to the memory of the late Dr. Joseph T. O. West, of Princeton, a Councillor at the time of his decease.

#### MEDICAL SOCIETY OF THE STATE OF NEW YORK.

EIGHTY-FIRST ANNUAL MEETING, HELD AT ALBANY, FEB. 1ST, 2D, AND 3D, 1887.

##### FIRST DAY.—MORNING SESSION.

THE Society was called to order at 10.20 by the President, DR. WILLIAM S. ELY, of Rochester.

##### THE PRESIDENT'S ADDRESS.

After thanking the Society for the honor conferred upon him in electing him to its highest office, and referring to the benefits to be reaped from attendance upon the meetings, Dr. Ely spoke of certain amend-

ments to the constitution and by-laws which he considered admirable. He recommended that hereafter the President be given discretionary power, when the amount of scientific material permits, to arrange for the formation of two or more sections for which he may appoint chairmen and secretaries. He also recommended that the committee on legislation be instructed to report at the next annual meeting as to the advisability of certain changes in the laws relating to the organization of the State and county medical societies and boards of health. He also recommended the addition of an "In memoriam" to the published transactions. The number of deaths among members, and particularly of eminent men, had been unusually great the past year.

The committee on the President's Address, appointed later, reported in favor of adopting all its recommendations excepting the one alluding to a change in the organization of the State and county medical societies. The committee's report was adopted.

DR. BENDELL rose to read the report of the committee on legislation, but DR. R. F. DRAKE objected, saying that Dr. Bendell had been appointed chairman of the committee by the President to fill the place of Dr. Roosa, who had been elected to the office by the Society but could not serve. The question was referred to the committee on by-laws, which reported later that the action of the President was not in accordance with the by-laws; but it recommended that his action should be supported in this instance, not intending, however, that it should be considered a precedent. The committee's recommendation was adopted, and after the report of the committee on legislation had been read, Dr. Roosa offered the following resolution, which was adopted,

*Resolved*, That, while the Medical Society of the State of New York approves of the report recommending the codifying of the present laws as regards medical matters, it does not relinquish the conviction, so often expressed, that it is necessary for the interests of the people and the profession that a law creating a Board of Medical Examiners be passed.

Dr. W. C. WEY related a case of

#### SUPPURATION AND DISPLACEMENT OF THE EPIPHYSEAL HEAD OF THE HUMERUS

in a child two weeks old. The rarity of the condition was remarked upon, as well as the fact that nature being allowed the opportunity effected a cure without aid.

#### ADAPTATION OF DR. CORNING'S METHOD OF PRODUCING LOCAL ANÆSTHESIA TO OPERATIONS ON THE EYELIDS.

DR. DAVID WEBSTER read this paper, in which he described the operation as adapted to the eye, in which class of cases, as well as in others, he had found it very useful. He employed cocaine-anæsthesia in nearly all operations on the eye, excepting enucleation.

DR. J. LEONARD CORNING followed with a paper entitled

#### MEDICATION OF THE NERVES OF THE SPINAL CORD.

The method of producing anæsthesia alone had been described when the allotted time had expired.

DR. PHELPS made some remarks upon the dangers of cocaine, and thought it should be given in no larger quantity than was really necessary.

DR. ROOSA had seen no ill-effects from cocaine, and thought it should be employed as frequently as desirable, but also in as small quantity as possible.

#### IS THE DANGER OF POST-PARTUM HÆMORRHAGE INCREASED BY THE USE OF ANÆSTHETICS DURING PARTURITION?<sup>1</sup>

DR. FORDYCE BARKER read the paper, and said that his experience with antiseptics in labor had been limited, since 1850, almost exclusively to chloroform, which he regarded as preferable to ether because the odor is less disagreeable; because it is less irritating to the respiratory tract; because it is more quickly effective and in less quantity. It should be used intermittently, only at the time indicated. Dr. Barker employed chloroform to relieve pain in most cases of normal labor, and said that heart disease was not a contra-indication to its use when any anæsthetic was called for. He believed that with proper care no woman should die of post-partum hemorrhage due solely to uterine inertia. Chloroform hastened much oftener than it retarded labor. It could not be shown to exert any injurious influence on mother or child. The only case on record of death after chloroform in labor, in care of a competent practitioner, was one in which the anæsthetic had been preceded by convulsions and it was not proven that chloroform was the cause of death. Dr. Barker said he had never had post-partum hemorrhage occur in any of his cases except one, and in that chloroform had not been used.

DR. E. L. PARTRIDGE said that an important advantage in the use of an anæsthetic was the fact that the physician was better able to perform his manipulations, and was less likely to injure the patient in any way, when he knew that she was experiencing no pain. Another reason why an anæsthetic should be used was the fact that when the woman was allowed to suffer unduly, her nervous system seemed to become affected for sometime afterward, this being manifested in the presence of various nervous symptoms. He admired the terse statement of the author that uterine exhaustion was frequently called uterine inertia. A disadvantage in the use of ether was that usually it was called for at night, in a small room, and there was danger of explosion. Notwithstanding the fact that he very commonly employed chloroform, yet he had some fears.

DRS. SHERMAN, HEWLETT and CASTLE employed chloroform in labor.

DR. HEWLETT had had one case of post-partum hemorrhage due in part, he thought, to the use of chloroform.

DR. McLAURY had recently given up chloroform for hydrate of chloral.

DR. S. B. WARD still had fears of chloroform, even in labor, and employed ether, the effect of which, he said, was much quicker than many supposed, as a few whiffs from a towel would put the patient beyond pain.

DR. BARKER said his friend Playfair also employed hydrate of chloral, but an *à priori* objection was that its action must be continuous.

#### CORRECTION OF THE DEFORMITY OF PUG NOSE BY A SIMPLE OPERATION.

DR. JOHN O. ROE said the size of the pug nose would appear to be increased if the end or a portion

<sup>1</sup> See page 125.

causing the pug was removed, leaving the outline regular. The operation which he performed consisted in lifting the end of the nose and dissecting from beneath a sufficient amount to correct the deformity on returning the integument to its place. Too much should not be removed, and the integument should not be cut through, lest a scar be left. Malformation due to deformity of the cartilage could be corrected by incisions through the cartilage and use of internal and external splints. Five patients operated upon in this manner had had their physiognomies greatly improved.

Question of admission of delegates from medical associations of northern New York was raised, and later the Committee on By-laws reported that while in favor of admission of the gentlemen, as delegates, yet the committee could not report before the next annual session whether such action would be lawful. Report of the committee was adopted.

#### CONCERNING THE INFLUENCE OF SMALL QUANTITIES OF SODIUM, CALCIUM, AND POTASSIUM SALTS UPON THE CARDIAC AND SKELETAL MUSCLES OF THE TORTOISE.

SIDNEY RINGER, of London, sent the paper which was read by Dr. Stoddard. The conclusions from the experiments were, that saline solutions, when circulating through the system in such a way as to come in contact rapidly with muscular protoplasm, induce lessening or loss of contractility, and do so with great rapidity. Their action is exerted alike on cardiac and skeletal muscles. Lime and potassium salts brought into like intimate relation to muscle-protoplasm possess the power of exciting muscular contractility. Lime salt speedily restored contraction when stopped by saline solutions. These facts hold good for the heart muscle of the eel, the frog, and tortoise, and skeletal muscles of tortoise as well.

#### RESULTS OF MULTIPLE PARACENTESIS OF DRUM MEMBRANE ON THE HEARING IN CHRONIC AURAL CATARRH.

DR. O. D. POMEROY, in performing this operation, guarded against undue injury of the membrane. The operation was usually attended with little pain. Cocaine might be employed. In not a single instance had a considerable amount of inflammation of the membrane resulted, and the hearing in none had been lowered. On careful examination he was compelled to admit that the patient's statement was true regarding much improvement in hearing. Some of the cases had been under observation two years, and no tendency to relapse had been noticed. Twenty-four cases were reported.

#### IS MODERN MIDWIFERY MIDDLE-AGE?

DR. DAVID LITTLE showed conflicting views regarding utility of supporting perineum, of Credé's method, of immediate operation for lacerations, of use of antiseptic injections, etc. His restrictions applied only to cases of normal labor. When all goes well in this physiological process, he said, let well enough alone.

DR. FORDYCE BARKER agreed with the author in most of his statements. He, however, practiced Credé's method. He objected to the fashion of attributing all cases of rise of temperature after delivery to septic poisoning, and gave instances in which anti-malarial treatment had caused its return to normal.

DR. LAWRENCE JOHNSON opposed the use of anesthetics in normal labor, and their use was often rendered unnecessary in other cases by use of forceps, to the better welfare of the patient.

DR. J. S. WHITE then read a paper entitled

#### A CASE OF DISLOCATION OF HEAD OF LEFT FEMUR UNDER PUBIC ARCH.

It was followed by a paper from DR. EMMET HOLT,

#### A PLEA FOR MORE CAREFUL INVESTIGATION OF URINE IN YOUNG CHILDREN.

Up to the present time little attention had been given to nephritis in infants, except as a complication of infectious diseases. For this reason the urine in other diseases of infants was seldom examined, and it was probable many cases of nephritis were thus overlooked. Within the last few months the author had seen six cases, and a friend had reported two more, making eight cases of renal disease in infants under two years, not complicating any infectious disease. The symptoms were described. Five of the cases proved fatal. Different means for collecting urine were mentioned. The best was the use of the catheter, a napkin, or a condom might be employed.

#### SOME IMPORTANT POINTS IN THE MANAGEMENT OF DEEP URETHRAL STRICTURE.

was the title of a paper read by DR. F. N. OTIS. Out of a large number of cases of urethral stricture which had come under his observation, less than ten per cent. were situated beyond a point four inches from the meatus. The large majority of strictures were in the penile portion.

In dilating the stricture the sound should not be introduced through the deeper portion when healthy.

#### FIRST DAY. — EVENING SESSION.

#### CONCERNING STATE AND PREVENTIVE MEDICINE

was a paper read by DR. MERCER, of Syracuse, only an abstract of which was read. It contained an outline of sanitation from ancient to modern times. He suggested the founding of a sanitary organization, which should be composed of all interested in such matters throughout the State.

DR. DAVID LITTLE exhibited a modified Barnes's dilator for use as a "dinner-pad" in the application of the plaster-of-Paris jacket.

#### ON THE INTOXICANT HABIT.

DR. H. R. HOPKINS, of Buffalo, in considering this subject, referred not alone to the use of alcohol, but also of cocaine, morphine, etc. He believed the medical profession was in a great degree responsible for the increase and existence of the intoxicant habit in all its varieties, but the alcoholic least.

DR. WEY, of Elmira, discussed the paper, confining his remarks to the alcoholic habit, which, he thought, was best treated in inebriate asylums, where the patient's appetite could be restrained. The State, he thought, could not rightly limit the sale of alcohol through a high license, as it was taking from citizens the equal right to engage in business.

#### REMARKS ON INTRA-UTERINE MEDICATION

were made by DR. T. A. EMMET, who, inasmuch as he was opposed to such medication, went back some years, tracing the development of his present convictions on the subject. He even opposed the use of hot

water. In reply to some remarks by Dr. Gill Wylie, he said that if there was a definite pathological lesion in the uterus, as the presence of a polypus, he would treat it. He no more introduced the uterine sound, or made applications to the endometrium. His patients left his hospital cured in a much shorter time now than formerly, when he employed intra-uterine medication. His views upon cellulitis were incidentally referred to.

#### ON THE NECESSITY FOR COMPLETE REMOVAL OF THE UTERINE APPENDAGES WHENEVER OPERATION IS CALLED FOR.

DR. ALBERT VAN DER VEER, of Albany, related six cases, and in his remarks said that he was deeply impressed that many so-called nervous cases subjected to this operation, are cases which ought to be relieved by some medication, and he desired to state that in the cases reported such treatment had been faithfully tried without avail. Several of the patients were not permanently cured after removal of the uterine appendages.

A paper on this subject was sent by MR. LAWSON TAIT, read by DR. S. B. WARD, entitled

#### THE RESULTS OF UNILATERAL REMOVAL OF THE UTERINE APPENDAGES.

MR. TAIT asked the question, would it not be better to advise complete removal of the uterine appendages in any case where the operation is demanded by the presence of disease, even if limited to one side?

This was his first contribution toward the solution of this question, and it contained an analysis of his first thousand cases of laparotomy, prior to 1884, twenty-six of which had a bearing on the question. One of these was useless, as the patient had died. In conclusion, he said that though the number of cases was small, he was yet becoming more convinced that, when the patient's sufferings were sufficient to justify laparotomy, it was better to remove the entire uterine appendages, although there was disease upon but one side. He preferred the term, "uterine appendages." It was absurd to name an operation after an operator.

DR. T. A. EMMET said that Battey's operation, in his opinion, should rarely be performed. He thought removal of the uterine appendages was done far too frequently in this country. He seldom saw a case in which the operation was indicated, yet he saw many cases called by some authors salpingitis, and he cured them too.

DR. GILL WYLIE had removed the appendages on one side only in four cases, at least. Two had since borne children. In one, neuralgia developed in the other ovary, which was then removed, and the patient is now well.

#### SECOND DAY.—MORNING SESSION.

DR. PARKER offered the following preamble and resolution, which were adopted:

*Whereas*, It is in the knowledge of this Society that in one or more counties of this State a vote has been carried by a majority to disband or dissolve the County Medical Society; and *whereas*, the minority in such societies are not informed as to their rights and duties in such circumstances, therefore, it is hereby resolved, that the Committee on Legislation is instructed to consider the matter, and formulate such directions as may be wise for the instruction of those desiring to

rehabilitate such societies, and to obtain possession of the records, moneys, libraries, or other property in possession of the old society at the time of its dissolution, such committee to report at the next meeting of this Society.

#### REPORT OF THE COMMITTEE ON HYGIENE.

DR. STODDARD read the report, which showed an improvement in the sanitary condition of public institutions throughout the State generally, but it was evident there still remained much work to be done by the members of the Society individually. The facilities for bathing had been much improved. In connection with this report, a bill before the Legislature, providing for the establishment of a hospital for contagious and infectious diseases, pertaining to King's County, was read.

DR. A. G. GERSTER then read a paper on

#### ANTISEPTICS IN PRIVATE PRACTICE AND EMERGENCIES.

and presented a bag for antiseptic surgery, containing the following:

One bottle, two ounces, in wood box, with corrosive sublimate; box marked, "Corrosive sublimate, 1; alcohol, 10; one teaspoonful to a quart of water; strength, 1 to 1500." One bottle, four ounces, in wood box, carbolic acid, pure; marked, "Four teaspoonfuls to a quart of hot water; shake well; strength, three per cent." One bottle, two ounces, in corrugated tin box, chloroform. One bottle, four ounces, for catgut ligature, in corrugated tin box, with glass reels. One dusting box, hard rubber (Gerster's), for iodoform. One tin can, with one-half pound of ether. One long glass jar, with rubber cork and metal screw top, for rubber drainage tubing, with five parts carbolic solution to one hundred parts water. One long glass jar, like above, for compressed carbonized sponges. One large broad-handle scissors, stout, for cutting gauze. One stout ring-handle dressing forceps, for drawing forward tongue in anaesthesia. One razor, one teaspoon, one piece of wax. One Ormsby's Ether Inhaler, and one Esmarch's Chloroform Mask, both enclosed in rubber-cloth bag. One large-size fountain syringe, with three glass points and rubber tubing; also in rubber-cloth bag. One hypodermic syringe, in metal case, with screw cap to prevent evaporation, for probatory puncture. One stiff nail-brush, solid wood back. One dozen large and small safety-pins. One white linen pouch, for the reception of instruments. One nest, six tin cups, block-tin, six inches in diameter. One nest, six large, square tin basins. The valise has loops inside for holding the bottles and the various articles; an inside pocket for small articles, and an outside pocket for dressings. The valise is placed in the nest of tin basins, and is fastened to the same by two leather straps. Size of valise, eighteen inches long by eight and one-half inches wide.

#### ON THE MANAGEMENT OF SOME FORMS OF VARICOEQUUS.

DR. PHELPS demonstrated his manner of treating certain cases of varicoequus. He first divided the contracted soft parts, and if this did not overcome the deformity, the bones being at fault, he cut this, and, if necessary, took out a V-shaped piece. Further resistance was overcome by an apparatus into which he placed the foot after applying a water-glass and a plaster-of-Paris dressing. The foot having been forcibly brought into a correct position while the patient was under the anæsthetic, it was left in the apparatus until the dressings hardened.

DR. LUCIEN HOWE, of Buffalo, read a paper on

#### THE COMPARATIVE VALUE OF ANTISEPTICS.

He first defined the terms antiseptic, disinfectant, and germicide. He showed the unreliability of the clinical test as to antiseptics, etc., and showed that the safest test was by using the agents for destroying the germs after having obtained pure culture specimens. The object of the paper was to demonstrate

the fact that these experiments or tests could be carried out with comparative ease and without a great deal of expense. A simple method for photographing microscopical specimens was exhibited, the object sought was to show what solution in what strength would stop the growth of the germs.

#### THE TREATMENT OF REDUCIBLE AND IRREDUCIBLE HERNIA, BY HEATON'S METHOD.

DR. R. F. WEIR first described Heaton's method of operating, and then spoke of certain details of the operation which he had altered, he thought, for the better. First, he used a somewhat longer and thicker needle; he introduced by a boring motion; when it entered the canal it was indicated by a sensation as if a slight obstacle, as a piece of writing paper, had been passed. He and his colleague, Dr. Abbe, had operated upon about seventy cases, the percentage of cures being a little over twenty-nine. Dr. De Garmo, he said, had reported a number of cases, claiming as the percentage of cures about forty-five. For cases in which Heaton's method was not practicable, he resorted to the radical operation, which he also described, and said that the relapses under this mode of treatment, as shown by statistics, was thirty-nine per cent., while the mortality had been a little less than three per cent.

DR. ROSWELL PARK, of Buffalo, had performed only Czerny's operation, and he had been very well satisfied with it. He had operated in between twenty and thirty cases, and none had returned with a relapse. He fixed a portion of the omentum in the wound, and thought it went to prevent a relapse.

DR. GILL WYLIE spoke of the prevention of hernia after laparotomy, the important point being to bring like tissues in contact when closing the abdominal wound.

DR. DE GARMO and DR. WEIR spoke emphatically against leaving a part of the omentum in the wound in the radical method.

#### TOBACCO AMBLYOPIA.

DR. HERMAN BENDELL, of Albany, read a paper on this subject, in which he took the ground that analogy would indicate the possibility of tobacco amblyopia, and his clinical observation went to support this view. Time did not permit of his reciting cases. He thought it occurred most commonly in those who used strong tobacco. The prognosis was not favorable, but in any case he thought the patient should absolutely abstain from the use of tobacco.

DR. ROOSA said that out of a large number of patients seen at institutions, he had not been able to trace one case of amblyopia directly to the use of tobacco. Facts were wanted in discussing this subject, and not theory.

#### PAROXYSMAL CARDIAC DYSPNOEA.

DR. A. L. LOOMIS read the paper. In very many valvular diseases of the heart, when accompanied by hypertrophy and secondary dilation, dyspnoea was a prominent symptom, but the dyspnoea was of gradual development. In the paroxysmal cardiac dyspnoea to which he referred, the symptom was due entirely to the state of the heart and the consequent arrest of pulmonary circulation, more or less complete, and not to any organic lesion in the lungs obstructing the entrance of the air to the air cells. Under whatever

diseased condition this form of dyspnoea arose, it had this one essential cause, namely, temporary or permanent arrest of blood in the heart or pulmonary arteries, and consequently it must either be paroxysmal, or suddenly terminate in death. The cause of the symptom was, in most cases, a thinning and consequent weakening of the cardiac muscle. There might be other lesions, but the frequent absence of signs of valvular lesions was what led to the patient's danger. He had found defibrinated blood entwined about the valves and in the heart cavities. If the right side of the heart was principally affected, the blood-supply would be shut off from the lungs, leaving them bloodless, and the other internal organs engorged. If the obstruction existed in the left side of the heart, the blood-current would be arrested in its passage to the aorta, the lungs would be found intensely congested, while the other internal organs had less than their normal amount of blood. The time when the paroxysm was most likely to come was in the early morning. When it came on, the patient constantly changed his position, hoping for relief. The pulse is feeble, irregular, intermittent. Frequently there is prolonged absence of the radial pulse. The return of the pulse precedes instead of follows the subsidence of the dyspnoea. The mind remains clear. If death took place, the final act was one of persistent muscular contraction. The treatment to be encouraged should be instituted in patients threatened with paroxysmal cardiac dyspnoea, instead of after the attacks had begun.

#### THE CLINICAL SIGNIFICANCE OF ENDOCARDIAL MURMURS.

DR. W. M. CARPENTER read the paper, the object of which was to further impress upon the minds of the medical profession certain facts well known to some, stated as follows: First, that endocardial murmurs and chronic valvular disease of the heart are not synonymous terms. Second, that the existence of a persistent endocardial murmur is not inconsistent with long life and the enjoyment of a fair degree of health. Third, that the knowledge, on the part of the patient, of the presence of an endocardial murmur, should guard him against exposure to all influences that may give rise to any of the diseases which are liable to have cardiac disease as the sequel, or that will cause increased cardiac action.

#### DEMONSTRATION BY DR. O'DWYER, OF NEW YORK, OF HIS METHOD OF INTUBATION OF THE LARYNX.

DR. O'DWYER traced the gradual improvement of the instrument used in this operation since he first began his experiments on the cadaver, about six years ago. Within a year he had practiced intubation of the larynx in about fifty-seven cases, refusing to do the operation on none, it mattered not how near death's door they had come. Out of this number fourteen lives had been saved.

(To be continued.)

— At a recent meeting of the Paris Société Thérapeutique, M. Blachez reported the administration of gaseous injections of sulphuretted hydrogen in three cases of chronic pulmonary disease, in two of which positive benefit was experienced. In the third case there was no satisfactory improvement of the lung symptoms, and some gastro-intestinal irritation was induced.

## Recent Literature.

*The National Dispensatory, containing the Natural History, Chemistry, Pharmacology, Actions and Uses of Medicine, including those recognized in the Pharmacopæias of the United States, Great Britain and Germany, with Numerous References to the French Codex.* By ALFRED STILLE, M.D., and JOHN M. MAISCH, Phar. D. Fourth Edition. Revised and Improved. Philadelphia: Henry C. Lea's Son & Co. 1886. xvi. 1781.

This, the most comprehensive of the several commentaries upon the Pharmacopæia of the United States, Great Britain and Germany, which has yet appeared, has by this last revision been brought fully up to the existing knowledge upon the subject treated. Its references to the British Pharmacopæia have been amended for the late and much-changed new edition of that work; an "addenda" of twenty-five pages has been appended, treating of some twenty-four of the latest and more important additions to the materia medica, among the most noteworthy of which are Antipyrine, Cocaine Hydrochlorate, Iodol, Lanolin, Thalline, and Urethane. This work should be in the hands of every physician and pharmacist.

*Handbook of Practical Medicine.* Vol. III. By DR. HERMANN EICHHORST. 157 wood engravings. 8vo. pp. viii. 390. New York: Wm. Wood & Co. 1886.

This third volume of the translation of Eichhorst's great work, the October number of Wood's Library, contains the sections on the diseases of the nerves, muscles and skin. The first striking feature is that nowhere, either in this volume or the others, does the author discuss the diseases of the oculo-motor nerves and their nuclei. With this exception, however, the author gives a reasonably full account of the diseases of the nervous system. This portion of the work, however, seems to us hardly equal to the other volumes. In aetiology and minute pathology it is superior to any work of the size with which we are familiar, but its description of the symptomatology of disease, although full of valuable points, lacks that systematic arrangement and clearness which might make it suitable for the student. Portions of it, too, notably the chapters on neuritis, alcoholic paralysis, and Thomsen's disease, have been rendered of less value by the great additions to our knowledge made since their original publication. The chapters on the skin contain a good though a brief account of its diseases. Although not the best manual for the student, this volume is of great value as a work of reference, and we are glad that it is now accessible to the English reader. We cannot speak highly, however, of the work of the translator. The style is harsh and follows the German idiom too closely, and in the paragraphs on treatment the parentheses and abbreviations cause needless obscurity. On page 13 the misplacement of the word "only" causes the author to make the astounding statement that the third branch of the fifth "contains only motor-fibres," which is a fact known only to the translator. The mechanical execution of the book is cheap, and the illustrations, except in the chapters on skin diseases, are wretched in execution, and many of them are so obscure as to aid but little in explaining the text.

*Paralyses, Cerebral, Bulbar, and Spinal: A Manual of Diagnosis.* By H. CHARLTON BASTIAN, M.A., M.D., F.R.S. 8vo. pp. xi, 671. New York: D. Appleton & Co. 1886.

This work is more than a manual of diagnosis of paralysis; it might well be called a manual of topical diagnosis of diseases of the central nervous system, and, although not always in accord with our present views, it is a clear and admirable work, and will be of much value to every one who wishes to be able to localize the lesion in cases of structural nervous disease.

The first half of the book is devoted to paralyses of encephalic origin, and takes up, first the pathological conditions that may cause paralysis, and the clinical indications of these several conditions. Then it considers the individual symptoms with regard to their significance in topical diagnosis, and finally the indications of disease in the various regions of the brain. The arrangement is comprehensive and satisfactory, the descriptions are clearly written, and the occasional tables for diagnosis are admirable. The author maintains his former view that the centres in the central convolutions are really "sensory centres of a kinesthetic type," "cerebral termini for impressions from muscles," more or less closely interlaced. The author is disposed to agree with Charcot's old theory that it is doubtful whether a cortical lesion can cause hemianopsia, and he still clings to the hypotheses of a centre for monocular vision in the angular gyrus and of a double decussation of the optic tracts; hypotheses which Seguin's recent work has disproved. He omits any mention of paralytic attacks in general paralysis and of paresis of the trunk muscles in hemiplegia, and the section on secondary degeneration neglects the recent work of Pitres, Sherrington and others.

Paralyses from diseases of the medulla are treated very satisfactorily on the same plan, and then a chapter is given to the motor and sensory paralyses of the cranial nerves, which is a fairly full and accurate account of the symptoms. It would have been better if some account had been given of the changes in the field of vision in the early stages of optic atrophy, which is at times of great value in diagnosis.

The final part, on paralyses of spinal origin, seems to us hardly equal to the rest. Adamkiewicz's investigations have been overlooked in dealing with the vascular supply of the spinal cord, and the discussion of the reflexes is rather unsatisfactory. The author maintains that a non-inflammatory softening of the cord is the ordinary lesion in "acute myelitis," and that a true inflammation is rare. He classes alcoholic paralysis among the functional diseases of the cord, where we also find "paraplegia from idea" and hysterical paraplegia, — a rather peculiar classification in the light of our present knowledge. He also makes the remarkable statement that in hysterical paraplegia he has seen absence of the patellar reflex. His whole classification of spinal diseases is rather vague, for he arranges them according to the acuteness of their onset, and his classes necessarily overlap. The book contains one hundred and thirty-six illustrations, most of which are old friends, but we are sorry to add that the reproduction of the illustrations is poor.

— The mortality in labor in China is said by a contemporary to amount to eight per cent., or about four hundred thousand deaths annually.

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ARSENICAL WALL-PAPERS.

PUBLIC attention has again been called to the subject of arsenical wall-papers by a paper read by Dr. J. R. Chadwick at the meeting of the Section for Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, January 12, 1887. The discussion which followed the reading of the paper was broad in its scope and interesting in its character. Dr. Chadwick demonstrated conclusively the unreliability of many of the guarantees which have been hitherto presented by the paper-dealers regarding the freedom of their papers from arsenic, and thus emphasized forcibly the necessity of a uniform method of analysis, and such a method as will detect with certainty at least the minimum amount of arsenic likely to be injurious. We have good authority for the statement that papers containing the equivalent of two grains of arsenious oxide to the square yard have been pronounced by chemists, in Boston, free from arsenic, presumably as a result of objectionable methods of analysis. Whatever differences of opinion may exist regarding the final test employed, we fail to see how any exception can be taken to the statement made by Prof. E. S. Wood, in the course of the discussion, that no test can be considered reliable which does not secure the destruction of the organic matter of the paper as the first step in the operation; yet this step as a preliminary to Marsh's test is, we have reason to believe, frequently omitted in the analysis of wall-paper.

The clinical aspects of the subject were well illustrated by a series of cases in which recognized symptoms of arsenical poisoning were finally traced beyond reasonable doubt to wall-paper. The fact of arsenical poisoning from wall-papers is so well established, that we do not consider it necessary at this time to place before our readers the evidence which can be adduced to substantiate it.

We have, however, a word or two of comment to make upon the remarks of a chemist, Mr. C. Tennant Lee, who claimed that poisoning from arsenical papers rests on a very insufficient basis and must be considered

as not proven. Mr. Lee's remarks were characterized by a surprising degree of ignorance, not only of the matter under discussion, but of matters purely chemical. He argued that most of the cases which have been attributed to arsenical poisoning are in reality due to defective plumbing, or to some other fault in the sanitary condition of dwellings — more particularly, however, to foul water-boxes in furnaces — and he very impudently intimated that the physician cannot discriminate between symptoms of arsenical poisoning and those caused by other diseases.

The whole question of poisoning from arsenical papers is apparently new to Mr. Lee; so we judge from his remark that its entire history is but two or three years old. We do not propose to argue the matter with Mr. Lee. We believe it would be useless. It may not be amiss, however, to call his attention to the fact that, in a majority of the most authentic cases, the possibility of arsenical poisoning has been the last one thought of, and the paper has been submitted for analysis only after every other cause for the symptoms has been eliminated. Mr. Lee's ignorance on matters purely chemical is well illustrated by his remarks on the nature of the process which takes place in the manufacture of rosaniline, and by his statement that arsenic cannot be liberated in any natural way in the form of arseniuretted hydrogen.

Dr. J. M. Harlow made a brief statement of some of the reasons, as they appeared to him, for the failure of the bill presented to the last Massachusetts Legislature to become a law. Dr. Harlow was chairman of the Committee on Public Health of that Legislature, and his opinions on the legislative side of the question are entitled to careful consideration. While agreeing with him that any law which is asked for should include certain other domestic articles which frequently contain arsenic — such as children's toys, kindergarten papers, etc., and fabrics colored with Paris green — we do not believe it is advisable to include fabrics as a class. For, in the case of many fabrics we are not able to establish that close relation between cause and effect which we often are with wall-papers, and which the speaker rightly characterized as the greatest element of success in an undertaking of this kind. Fabrics contain other substances besides arsenic, which, there is reason to believe, may be a source of injury; for example, compounds of chromium and antimony, which are used as mordants. We are not as yet in a position to say that many of the colors themselves are not injurious, especially when they are brought into contact with the skin. We cannot, therefore, in the present state of our knowledge, say, when we find arsenic in a fabric which has caused poisoning, that the arsenic and the symptoms observed certainly stand in the relation to each other of cause and effect, unless arsenic should be detected in the urine. The introduction of fabrics, as a class, into any bill would, we believe, arouse additional opposition sufficient to endanger its passage.

Dr. Harlow believes that a law should establish a

limit to which arsenic may exist in wall-papers without being considered dangerous to health. Prof. H. B. Hill, on the contrary, believed a limit unwise, because there is no reason for the use of arsenic at all in the manufacture of wall-papers. We think Dr. Harlow takes the right view of this matter. By reason of its wide distribution minute traces of arsenic are very common, and we believe it is the uniform experience of chemists who employ the Berzelius-Marsh test in the analysis of wall-papers, that a large proportion of such papers contain traces of arsenic which may be regarded as unavoidable or of no account whatever. If chemists will agree upon some amount of arsenic which can fairly be considered unavoidable, and will further agree to report all papers containing less than that amount "free from arsenic"—meaning thereby free for all practical purposes—there may be a justification for the position taken by Prof. Hill. So long, however, as chemists employ the Berzelius-Marsh test, and report as arsenical, papers containing one, two, or three milligrammes of arsenic to the square meter, a limit is necessary.

There is, however, another reason why a limit is desirable. The manufacturers and dealers appear to be better disposed now than they were a few years ago, when it was impossible to convince them that papers contain any arsenic at all. The paper-dealers were represented in this discussion by Mr. N. W. Bumstead, of the firm of J. F. Bumstead & Co. The dealers do not believe in the possibility of poisoning by wall-papers. But they do acknowledge at the present time that a certain number of papers contain arsenic; though they claim to use every effort to obtain papers free from arsenic. The most prominent dealers in Boston have for a number of years secured analyses of their papers, and at the present time they have an agreement with the manufacturers whereby all papers containing more than a trace of arsenic are returned. The result is well shown in some figures given by Dr. Hills, from which it appears that, while a few years ago over thirty per cent. of all the papers examined by him were strongly arsenical, at the present time only thirteen per cent. contain anything over a trace of arsenic; and in most of these the quantity is comparatively small. The experience of other chemists who have occasion to examine large numbers of papers, is, we believe, similar.

As the matter now stands, we are not sure that it is impossible to fix a limit which shall satisfy the requirements of safety and which will be acceptable to the manufacturers and dealers. If so, the chief opposition to legislation will disappear. We believe that the opposition of the dealers at the present time arises, almost entirely, from a fear that they will not be fairly treated by the chemists, and we feel that the question of limit is to be an important one in future attempts to obtain legislation. What that limit should be, we are not now prepared to suggest. We would not place it as high as is suggested by Petenkoff (fifty-five one-hundredths of a grain per square yard),

but it is well to consider, before going to the legislature again, whether the limit asked for a year ago was not somewhat too low for practical purposes.

The undue importance attached to the arseniuretted theory may also be mentioned as one of the factors which, in our opinion, contributed to the defeat of legislation last winter. There is no doubt that this gas, or some other volatile compound of arsenic, may be evolved when compounds of arsenic are left in contact with fermenting and decomposing organic matters. There are reasons for believing too that this fact explains in certain cases the evil effects resulting from arsenical wall-paper; but after a careful consideration of the experimental evidence, we are forced to acknowledge that our information on this point is far from satisfactory. It is a subject calling for careful investigation. At the same time we should not lose sight of the fact, that most of the cases of poisoning from arsenical papers are undoubtedly due to the introduction of the arsenic into the system in the form of dust; and in future attempts at legislation we should carefully refrain from attaching any more importance to the arseniuretted hydrogen theory than the facts known will warrant.

Prof. E. S. Wood suggested that all physicians who have cases of arsenical poisoning from wall-paper should send a sample of the patient's urine, together with a piece of the paper, so that a quantitative analysis may be made, and at length a positive and accurate opinion be gained of the exact amount of arsenic which is capable of producing symptoms. A general compliance with this suggestion can hardly fail to furnish useful information.

Dr. G. E. Francis thought we should seek to ascertain if paper loses any arsenic while on the wall, and if so, the rate at which the arsenic leaves the paper. Dr. Francis's idea, if we understand him correctly, is to estimate the amount of arsenic in the paper after it has been on the wall a certain number of years, and compare this amount with that contained in the paper which has never been upon the wall. We do not believe any trustworthy information can be gained by this method of investigation. Given a loss in the amount of arsenic after a certain number of years, we can never be certain that a portion or all of such loss has not been caused by the friction to which the paper has been subjected in applying it to the wall or in removing it. That arsenic is lost in many cases has already been satisfactorily demonstrated by its detection in the dust of the room.

Dr. W. B. Hills expressed a belief that the matter might settle itself in a year or two, basing this belief on the fact that the proportion of arsenical papers had already diminished very materially, owing to the efforts of the manufacturers and dealers to meet the demands of the public. We should not, however, lose sight of the fact that any immunity we may possess at the present time, or hereafter, has been obtained only under the pressure of public opinion, and that, if this is removed, we may in a few years become again ex-

posed to as great dangers as we have been heretofore. Whether, therefore, a law is to be again demanded or not, the matter should not be allowed to rest where it is at the present time. It should, we think, be referred to a committee of physicians and chemists for careful consideration. Should it be decided to go before the legislature again, such a committee could, in our opinion, present the evidence much more satisfactorily than it was presented a year ago.

#### REDUCING SUBSTANCES IN THE URINE.

BOEDECKER, in 1861, was the first to call attention to the possible presence in the urine of a peculiar reducing substance, called by him alkapton, which reacts chemically in some respects like grape sugar, and which may therefore in rare instances be mistaken for the latter. In 1875, Fürbringer reported a second case in which the urine contained the same or a similar body.

Urine containing the so-called alkapton reduces strongly the salts of copper, and upon addition of potassic hydrate (Moore's or Heller's test) becomes dark from above downward, owing to the absorption of a large amount of oxygen. It does not (in the absence of sugar) reduce the subnitrate of bismuth, neither does it respond to the fermentation test. With indigo-carmin the same play of colors is produced as with urine containing sugar, but upon afterwards shaking with air, the reverse change does not take place, as is the case with urine containing sugar.

Similar cases have been observed by Ebstein and Müller, Dr. Armstrong, of Dublin, and still more recently by Dr. Robert Kirk and Dr. Frank Donaldson. Ebstein and Müller concluded, from their investigations, that the so-called alkapton is identical with brenzcatechin (pyrocatechin, oxyphenic acid) which, according to Baumann, is a very frequent, though not constant ingredient of human urine, and is always present in the urine of horses, occurring partly in the free state, partly in combination with sulphuric acid. The urine in Dr. Armstrong's case was examined by Dr. W. G. Smith, whose investigations led him to believe that the substance in question was protocathechuic acid; while Dr. Kirk, after a careful comparison of the reactions of the urine reported by him and of the peculiar body isolated from it, with those of pyrocatechin and protocathechuic acid, concluded that in his case the substance was different from either of these, and he proposed for it the name *urhodonic acid*.

The case reported by Dr. Donaldson is of peculiar interest, from the fact that the person by whom the urine was passed had been repeatedly rejected by life insurance companies because of the presence of sugar in his urine. There was, however, no clinical evidence of diabetes; the patient was in apparently perfect health, and in the past three years had gained in weight and girth. The specific gravity of the urine was normal. Dr. Tyson was finally called in consul-

tation, and, upon examination of the urine, concluded that the reducing substance was not sugar, an opinion in which Professor Wormley coincided. Dr. T. Barton Brune<sup>1</sup> and Dr. John Marshall have, entirely independently of each other, made a careful study of the urine in this case, and have described in detail the reactions of the urine and of the reducing substance isolated from it. Dr. Marshall believes the substance to be a hitherto unrecognized acid, and he proposes for it provisionally the name *glycosuric acid*. Dr. Brune says that it is not protocathechuic acid, although closely resembling it, and that it is apparently identical with Kirk's "*urhodonic acid*."

While we are not at present able to say positively that the peculiar reducing substances in the cases thus far observed are identical, we are inclined to believe that such is the case. It has not yet been shown that this substance, whatever it may be, has any pathological significance. It is perhaps worth mentioning that a majority of the cases have been in children. In one case only, we believe, was sugar present. It is, therefore, very important to bear in mind the fact, not generally understood apparently, that the reduction of the alkaline copper solution should not be relied upon as evidence of the presence of sugar, especially in cases where the clinical evidence does not point to diabetes mellitus, but should be supplemented by other tests.

The danger of relying entirely upon the indications furnished by the copper test is further emphasized by the fact that other accidental reducing substances, derived from the ingesta, are occasionally found in human urine. For example, chloroform is eliminated with the urine, and such a urine reduces the copper solution. Dr. Sherwin, in a recent number of this JOURNAL, calls attention to the fact that the urine of patients taking chloral will reduce the copper solution. This observation is not, however, a new one, though perhaps not generally known. From the researches of Vetlesen, published in 1882, it appears that during the internal use of oil of turpentine the urine contains a substance which reduces both the salts of bismuth and those of copper. According to Fleischer, the urine of persons taking salicylic acid, or its sodium salt, frequently has all the characteristics of urine containing Boedecker's alkapton.

There are, very likely, several other substances the administration of which may occasionally become sources of error if reliance is placed on the copper test alone. Those mentioned are, we believe, sufficient to show that caution is necessary in making a diagnosis of diabetes mellitus upon an insufficient examination.

#### OIL OF TURPENTINE IN CHRONIC CATARRHAL AFFECTIONS.

THE attention of the profession is again called to the great remedial value of oil of turpentine in chronic affections of the lungs and bowels, this time by Dr.

<sup>1</sup> Journal, December 30th, 1886, January 27th, 1887.

James B. Walker.<sup>1</sup> Turpentine taken internally, he thinks, is capable of impressing almost the entire mucous surface of the body; the exceptions are the uterus and vagina. Its first effects are upon the gastro-intestinal tracts before absorption; and being eliminated by the kidneys and lungs, it physiologically stimulates, and in pathological states, it may favorably modify these emunctories.

Limiting his observations to chronic catarrhal affections of the alimentary and pulmonary tracts, Dr. Walker finds that in hemorrhages from these surfaces it possesses peculiar powers. This is especially true of the stomach, in ulcers of whose mucous coat it stands preëminent. In hemorrhage of the intestines, it is only a little less valuable, and even here it ranks with any other styptic and outranks most of them. It is applicable to hemorrhages of the earlier, as well as the latter, stages of typhoid fever.

In sub-acute and chronic diarrhœas, this remedy, Dr. Walker says, is used to a much less extent than its efficacy deserves. He has seen diarrhœas checked by it, which had for months resisted bismuth, opium, nitrate of silver, sulphate of copper, the mineral acids and other astringents. In chronic diarrhœas, he does not regard bismuth as so serviceable as in acute disease, its value in fact being in inverse proportion to the chronicity. Opium, in these cases, by lessening peristalsis, will arrest the diarrhœa, only to be followed, on its cessation, with an aggravation of the trouble. Lead and silver salts serve to arrest the catarrhal conditions and favor repair, but their influence must be slight in the small quantities which can be safely administered, and in view of the extensive surface upon which they must be distributed to be of any avail. Besides, in most of these cases the diseased areas are more or less protected by a tenacious environment of mucus. Turpentine may be given in considerable quantities without fear of irritation, and its volatile nature enables it to diffuse itself throughout the bowel, into all the intestines thereof, and to permeate even the mucous environment of the diseased glands, and directly impress these structures.

The best time for giving turpentine is between meals, and at bedtime. If, however, when taken on an empty stomach, there is much regurgitation, it should be administered about an hour after a meal. The oil may be given in gelatine capsule, each capsule inclosing from five to ten drops. In this form the drug is not tasted unless regurgitated; and if taken an hour after meals, will be so quickly passed into the intestines as to interfere little if at all with gastric digestion. Where the patient cannot swallow the capsules, the turpentine may be given in some sweetened emulsion, well flavored with anise or wintergreen.

In chronic bronchial affections, oil of turpentine has been found equally serviceable, and Dr. Walker states the proposition that in proportion to the chronicity of the bronchial catarrh, ammonia becomes of less, and turpentine of more value. He has used the turpentine

with signal success, not only in catarrhal conditions secondary to acute disease, but in primary catarrhal diseases which linger and threaten to involve the alveoli, or have already involved the alveoli and become entitled to classification as incipient phthisis. In the dry form the drug has not seemed desirable, but in the form characterized by decided or abundant expectoration its best effects are obtained.

The method of administration may be varied. Terrebene is an exceedingly good preparation, which may be less offensive to some patients than the crude oil. Dose, five to ten drops, on sugar, in emulsion, or in capsules. Or the oil of turpentine may be given in the same way. In bronchial catarrh turpentine is sometimes given in the form of tar (by inhalations or by mouth) and the following is a favorite formula of Dr. Walker:

R	Animon. Chlorid.	. . .	3 iss.
	Vin. picis liquid.	. . .	3 ss.
	Syr. Tolu.	. . .	f 3 i.
	Aquæ.	. . .	f 3 iss.

M. Sig. A desert spoonful every four hours.

Bedford Brown, in the Journal of the American Medical Association (September 25th, 1886), advocates the use of turpentine in the management of the more painful affections of the alimentary canal in infants and young children. According to his experience, the oil of turpentine fills a place which no other remedies can fill. He believes the therapeutic effect of turpentine to be of multiform character. "It is eminently soothing to the irritated and inflamed mucous membrane, and seems to promptly arrest the rapid exfoliation of epithelium. It is antifermentative, deodorant and antiseptic." He lauds the beneficial action of turpentine in gastralgia, intestinal catarrh, enteritis, and a number of unclassified painful affections of a functional kind. He prescribes turpentine according to the following formula:

R	Mucilag. acacie	. . .	f 3 iss.
	Sodæ bicarb.	. . .	gr. x.
	Chloroform.	. . .	gtt. x.
	Ol. terebinth.	. . .	3 ss.

M. Sig. A teaspoonful every two or three hours to an infant of six months.

#### THE REPORT OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE HOSPITAL SERVICE.

In the operations of this Service our government approaches the paternal more nearly than in any of its branches, unless, perhaps, in the care of such of its wards, the original inhabitants of the soil, as it has ceased to treat as foreigners.

It used to be a matter of ever-recurring surprise that fishermen were not eligible to the benefits of the Marine Hospital Service. The matter was simple enough; only those were entitled to relief from the Marine Hospital fund who had contributed to it. The Service is now supported from the tonnage tax, rather than from individual assessments; and as fishing-vessels pay tonnage tax, by a decision of the Treasury Department, "seamen employed on vessels licensed

<sup>1</sup> Medical and Surgical Reporter, January 8, 1887.

for the fisheries are entitled to the benefit of this Service." Previous to this decision, even those engaged in whaling were ruled out of the marine hospitals.

This department still needs what has been so repeatedly asked for, a national refuge for decrepid seamen, and those suffering from incurable affections. The Surgeon-General suggests that if such a "snug harbor" were established in the District of Columbia, it could also serve as the general headquarters of the Bureau, and for the laboratory, purveying division, etc. Better accommodations would add greatly to the efficiency of the purveying department.

A large portion of the report is occupied with the quarantine service, and the reports of the medical officers engaged in it. It is believed that no case of small-pox was admitted into the United States across the northern border during the time of the quarantine established to prevent such an invasion.

Stubborn resistance to vaccination was occasionally offered by a car of immigrants, or by a few passengers in the parlor-cars. At many towns in Canada, certificates of vaccination were sold by physicians, or persons claiming to be physicians, to persons who had not been vaccinated, to enable them to pass the United States sanitary inspectors. Out of one party of forty immigrants provided with certificates of vaccination, examination showed that but seven had ever been vaccinated. This party had purchased their certificates for twenty-five cents apiece. The compulsory vaccination of passengers by the United States was a material aid to the Canadian authorities in carrying out sanitary regulations in the Provinces.

The report contains the usual statistical tables, and many valuable reports of cases and autopsies, and, in addition, a *résumé* of the conclusions adopted, and of the propositions rejected by the Technical Commission of the International Sanitary Conference of Rome (1885).

#### MEDICAL NOTES.

— From the report of the City Registrar of Providence, R. I., it appears that there were 2,355 deaths in Providence during the year 1886. This number was 191 more than in the previous year, and calling the population of the city 120,000, the rate of mortality was 19.62 in each 1,000 of the population. The number of deaths, in 1886, was greater than was ever before reported in Providence for a single year.

— To the suggestion of the *Medical and Surgical Reporter* that each of the eighty thousand physicians in the country ought to contribute fifty cents towards a memorial to Dr. Rush, the *American Lancet* replies that more than half that number had better use their fifty cents to pay their debts, provide for their families, or secure much-needed aids and appliances for the practice of their profession. It considers the majority of doctors ought to scrutinize even so small a

coin as a half-dollar before applying it to so sentimental a purpose as a memorial.

— The *London Medical Record* quotes Dr. Lahrie to the effect that repeated painting of the throat with a five per cent. solution of cocaine has caused an immediate lessening in the number of attacks of whooping-cough, children having fifteen or twenty attacks in the twenty-four hours only having five to ten attacks after the application. As the topical effect of the drug is of short duration, it is necessary to repeat it fairly often, but no tolerance is established, as with other drugs. Improvement took place in the general health, probably due to the diminution in the cough.

— The death of Lord Iddesleigh, better known by the name Sir Stafford Northcote, under which he gained his high political reputation, was traced to his great labors, and possibly, disappointments in public affairs, with the late hours incidental to Parliamentary business. In 1882 he was obliged to cease work, on account of evidence of cardiac mischief; evidence which had presented itself in a less pronounced form many years before when he was quite a young man, and on account of which he was advised to abstain from a parliamentary career. His sudden death occurred in Downing Street, in the presence of Lord Salisbury, whither he had gone to turn over the affairs of the foreign office to his successor. There was disease of both the mitral and aortic valves, but the failure of the latter was the immediate cause of death.

— Cases have been reported in which syphilis has been communicated through the Jewish ritual of circumcision from mucous plaques in the mouth of the operator. A Vienna correspondent of the *New York Medical Journal* refers to an epidemic of tuberculosis of the inguinal glands, originated among Israelitish children by a Jewish rabbi who had a tuberculous ulcer of the tongue. These cases were communicated by Professor Bergmann to the last Congress of Surgeons at Berlin. As a supplement to these cases, Professor Hofmokl presented to the Society of Physicians a child eight months old, who had been under his treatment six months before. The child had been circumcised, as usual, on the eighth day, and bleeding had been stopped by the operator taking the penis into his mouth. The wound did not heal, and seven weeks afterwards, a small gray ulcer was seen on the dorsum penis and remnant of the prepuce, accompanied by swelling of the glands in both groins. There were no manifestations of disease in other parts. The administration of iodide of potassium and of mercury in various forms, together with the application of iodoform locally, had been of no avail. The inguinal glands continued to swell, and some of them suppurated. The ulcer on the penis grew larger. No tubercle bacilli had been found in the pus, and there were no signs of syphilis. On the day after he was shown to the Society the child was put under chloroform, and

thirty glands, which had undergone partly caseous and partly suppurative changes were removed from the groins. Paquetin's cautery was applied to the ulcer. The removed glands proved to be tuberculous, and tubercle bacilli were found in them by Professor Weichselbaum. The mother of the child and its nurse were healthy.

## BOSTON.

— A bill has been introduced in the Massachusetts Legislature to restrict the sale of "Rough on Rats."

— A female school-teacher in Taunton, Mass., punished a seven-year old pupil for whittling his desk by "whittling his finger," deliberately cutting the thumb with a knife till she drew blood.

— Through the admirable activity of Dr. Henry I. Bowditch, the Boston Relief Committee have voted to appropriate \$5,000 to the restoration of the Medical School and the Roper Hospital of Charleston, S. C.

— The remarkable history of the poisoning by Mrs. Sarah Jane Robinson, of Somerville, of her children and others, in whose death she had a personal and pecuniary interest, has already been referred to in these columns, and is fresh in the minds of our readers. A seventh probable victim has now been discovered. The body of Oliver Sleeper, of Cambridge, which was recently exhumed from Mount Auburn Cemetery, owing to suspicions that he was another victim of Mrs. Robinson, has developed the existence of arsenic. The quantity found was about the same as discovered in the other cases. It is presumed that the investigation will now go back still farther, and that the body of her brother-in-law, Mr. Field, of Chelsea, with whom Mrs. Robinson lived at one time, will be the next to come under examination. It is reported that the physician who attended Mr. Field has said that his symptoms were those of arsenical poisoning.

— A series of suits for damages was recently decided in the fourth session of the Superior Civil Court, Boston, before Judge Pitman. The cases are of great interest to physicians, as well as to landlords and tenants. The suits were brought to recover damages for sickness and costs of medical attendance, caused by alleged defective drainage. The plaintiff, Charles A. Cutter, leased a house of the defendant at No. 60 Allen Street, Boston, with the representation that the drainage was in good condition. Mr. Cutter set forth that, owing to the bad drainage, he and other members of his family had diphtheria, one child dying thereby. The defendant denied his liability, and, in defence, claimed that the drainage was good. The suits were in the names of five members of the Cutter family, and ended in substantial verdicts for the plaintiffs, the amounts being, respectively, \$1,600, \$700, \$300 and \$250 each in the last two cases, making a total verdict of \$3,100.

## NEW YORK.

— Mr. Ernest Crosby, son of the Rev. Dr. Howard Crosby, has introduced into the Legislature a bill re-

organizing the City Board of Health, which has been drawn up by Mr. James Gallatine, who has paid much attention to the workings of the Department. It abolishes the commission which now manages the affairs of the Board, and substitutes therefor a single Commissioner of Health, who shall hold office for six years, receive a salary of \$8,000, and be appointed by the Mayor, the latter being authorized to remove him also "for reasons to be stated in writing and published in the *City Record*." Except as otherwise provided in the act the powers, authority, and duties of the commissioner shall be the same as those of the present Board. He shall appoint a Deputy, at a salary of \$5,000, who may act as Commissioner for a period not exceeding three months. All the duties of the present Secretary of the Board are conferred upon this officer. The bill abolishes the office of Attorney and Counsel to the Health Board, and authorizes the Corporation Counsel to assign an Attorney to the Department. The clerks and other employees of this attorney shall also be appointed by the Corporation Counsel. For the payment of the salaries of the Attorney and his employees a sufficient amount of the appropriation for the Health Department for the year 1887 shall be transferred to the credit of the Law Department.

## Correspondence.

## MILKY TUMORS OF THE AXILLA.

LONDON, 6 Nottingham Terrace,  
YORK GATE, N. W., January 21, 1887.

MR. EDITOR.—Your correspondent, Dr. Edward T. Williams, writes on December 16th, 1886, in your JOURNAL, on the above subject, that Dr. Champney is mistaken in supposing that he was the first to describe certain lumps in the axilla of lying-in women.

In proof of this he refers to the Sydenham Society's Translation of Velpeau's "Diseases of the Breast," pp. 233-235, where Velpeau "cites five cases by Scarpa, Siebold, Moor, Lee and Stanley (with references), which seem to have been quite similar to those described by Drs. Champney, Johnson, and Sinclair. Siebold's case, in particular, appears to have been the exact counterpart of Johnson's."

I think that Dr. Williams cannot have read Dr. Champney's paper, and compared the cases described by him with the originals of those quoted by Velpeau.

The majority of Dr. Champney's cases of "axillary lumps" having fallen under my personal observation, I may state that the characters which they presented by no means tally with the original descriptions of the five cases quoted by Velpeau.

(1) *Scarpa's* case was simply a case of large galactocoele, and has nothing to do with Dr. Champney's "axillary lumps."

(2) *Siebold's* case<sup>1</sup> presents some points of resemblance to Dr. Champney's cases, but there is no exact note either as to the precise situation of the tumor or as to the places from which the milk exuded (in Dr. Champney's cases the lump was invariably situated at the apex of the axilla and in the portion of skin covered by hair, and, though not necessarily commensurate with it, never extending beyond it, and the milk exuded on pressure from the roots of the hairs all over the lump). Moreover, the pendulous state

<sup>1</sup> Berl. Med. Zeitung, No. 6, 1838.

which the lumps eventually assumed, "hanging down an inch," is unlike any of those described by him.

This case may possibly have been of the same nature, but from Siebold's description it cannot be proved.

(3) "Moore's case" is a plain case of right axillary mamma with several nipples.

(4) Lee's case is one of bilateral axillary mammae with nipples.

(5) Stanley's case is very imperfectly reported, but appears to be one of axillary mamma with pores or ducts.

So far for Dr. Williams' "quite similar cases."

No one ever supposed that Dr. Champney claimed to be the first to describe "milky tumors of the axilla," but it has yet to be proved that the lumps which he has described have been noticed as such before his paper appeared.

Very truly yours, ROBERT BOXALL, M.D.

<sup>1</sup> W. H. Moore. *Lancet*, February 24, 1838, p. 786.

<sup>2</sup> Dr. Robert Lee. *Med. Chirur. Trans.* for 1836, p. 266.

<sup>3</sup> *Lancet*, 1838, p. 642.

# THE DOCTOR'S MESSAGE TRANSLATED.

SALEM, February 4th, 1887.

MR. EDITOR, — B's Greek is, *en anglais*, "My folks want me to go home." S. F. Q.

MR. EDITOR, — B's patient desired to tell his physician that his family wanted him to go home (*ol ávaykáia, necessarii*, those who are necessary to one, that is his kinsfolk). If the writer was a college student there would seem to be a peculiar fitness in his use of the word, the *necessarii* being the ones who furnish the *necessaria*.

Yours truly, Z.

MR. EDITOR, — The slight remains of my classical education would have led me to believe that the patient meant to say "necessity calls me home." Y.

## REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 29, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Croup.	Measles.
New York . . . . .	1,481,920	735	306	22.82	25.20	1.68	8.54	7.28
Philadelphia . . . . .	993,801	430	118	8.64	12.72	1.20	3.36	.24
Brooklyn . . . . .	745,108	—	—	—	—	—	—	—
Chicago . . . . .	725,000	—	—	—	—	—	—	—
St. Louis . . . . .	420,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,220	141	48	4.97	11.26	—	2.13	.71
Boston . . . . .	400,000	204	61	8.33	19.11	2.45	3.04	—
New Orleans . . . . .	242,750	88	21	10.26	18.24	2.28	3.42	—
District of Columbia . . . . .	210,000	79	26	5.08	3.81	—	1.27	—
Pittsburgh . . . . .	210,000	82	37	31.98	19.68	1.23	13.53	9.84
Providence . . . . .	121,500	—	—	—	—	—	—	—
Charleston . . . . .	60,145	22	3	—	13.65	—	—	—
Nashville . . . . .	60,000	21	10	33.32	14.28	14.28	9.52	—
Worcester . . . . .	68,383	24	12	4.16	20.80	—	4.16	—
Lowell . . . . .	64,051	30	12	26.66	13.33	—	6.66	6.66
Cambridge . . . . .	59,660	24	5	4.16	24.64	—	4.16	—
Fall River . . . . .	56,863	25	7	18.00	15.00	—	4.00	—
Lynn . . . . .	45,861	15	3	6.66	13.33	—	—	—
Lawrence . . . . .	38,825	14	5	—	21.42	—	—	—
Springfield . . . . .	37,577	14	3	21.42	—	7.14	7.14	—
New Bedford . . . . .	33,393	10	5	—	30.00	—	—	—
Somerville . . . . .	29,162	—	—	—	—	—	—	—
Salem . . . . .	28,084	11	—	—	27.27	—	—	—
Holyoke . . . . .	27,894	—	—	—	—	—	—	—
Chelsea . . . . .	25,709	12	3	16.66	16.66	—	16.66	—
Taunton . . . . .	25,674	8	3	—	25.00	—	—	—
Haverhill . . . . .	21,795	—	—	—	—	—	—	—
Gloucester . . . . .	21,713	—	—	—	—	—	—	—
Brookton . . . . .	20,783	10	2	30.00	10.00	—	30.00	—
Newton . . . . .	19,759	3	1	—	—	—	—	—
Malden . . . . .	16,407	—	—	—	—	—	—	—
Fitchburg . . . . .	15,375	6	2	—	—	—	—	—
Waltham . . . . .	14,609	8	4	—	50.00	—	—	—
Newburyport . . . . .	13,716	8	2	—	—	—	—	—
Northampton . . . . .	12,886	1	0	—	—	—	—	—
Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 2,022: under five years of age 699; principal infectious diseases (small-pox, measles, diphtheria and croup, erysipelas, fevers and diarrhoeal diseases) 299, acute lung diseases 377, consumption 255, diphtheria and croup 130, measles 64, diarrhoeal diseases 30, typhoid fever 21, scarlet fever 25, malarial fever 14, whooping-cough nine, erysipelas six, cerebro-spinal meningitis seven, small-pox (New York) three. From scarlet fever, New York 16, Philadelphia five, Boston two, District of Columbia and Lynn one each. From malarial fevers, New York four, Baltimore, New Orleans and Lowell three each. From whooping-cough, New York three, Philadelphia and Pittsburgh two each, District of Columbia and Nashville one each. From erysipelas, Boston three, New York two, Salem one. From cerebro-spinal meningitis, New York five, Fall River and Taunton one each.

In the 21 cities and greater towns of Massachusetts, with a

population of 989,182 (population of the State 1,941,465) the total death-rate for the week was 22.46 against 20.74 and 22.02 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,098, for the week ending January 15th the death-rate was 24.1. Deaths reported 4,362: infants under one year of age 866; acute diseases of the respiratory organs (London), 591; measles 195, whooping-cough 95, scarlet fever 82, fever 48, diarrhoea 34, diphtheria 31.

The death-rates ranged from 17.4 in Portsmouth to — in Wolverhampton; Birmingham 22.8; Bradford 30.8; Huddersfield 23.8; Hull 22.8; Leeds 28.6; Liverpool 28.2; London 23.0; Manchester 31.0; Newcastle-on-Tyne 27.9; Nottingham 20.9; Sheffield 22.4.

In Edinburgh 20.8; Glasgow 31.0; Dublin 36.2.

The meteorological record for the week ending January 29, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom- eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.		
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration Hrs. & Mins.	Amount in Inches.
Saturday, Jan. 29, 1887.																			
Sunday... 23	29.965	48.7	56.0	43.0	84.0	75.0	82.0	80.3	S.	S. W.	S.	19	24	12	C.	O.	O.	—	—
Monday... 24	29.426	44.1	55.0	32.0	93.0	93.0	84.0	90.0	S.	W.	W.	12	19	28	O.	R.	N.	—	—
Tuesday... 25	30.518	53.6	44.0	24.0	57.0	49.0	63.0	56.3	S.	S. W.	S. W.	15	16	18	C.	O.	N.	—	—
Wednesday... 26	29.886	30.5	35.0	16.0	68.0	100.0	67.0	78.3	S. W.	N. W.	N. W.	6	15	18	F.	N.	O.	—	—
Thursday... 27	30.518	13.3	21.0	2.0	63.0	48.0	58.0	56.3	N. W.	W.	S. W.	10	10	10	C.	N.	O.	—	—
Friday... 28	30.297	39.3	49.0	14.0	88.0	76.0	73.0	79.0	S.	S.	S.	4	27	20	O.	O.	O.	—	—
Saturday... 29	29.882	47.8	56.0	37.0	93.0	87.0	94.0	91.3	S.	S. W.	S. N.	20	12	8	O.	R.	R.	32	2.06
Mean, the Week.	30.070	37.1	46.6	21.1				75.9											

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; †, rain and melted snow.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 29, 1887, TO FEBRUARY 4, 1887.

**POWELL, JUNIUS L.**, captain and assistant surgeon. Granted leave of absence for two months, to take effect when his services can be spared by his department commander. S. O. 24, A. G. O., January 29, 1887.

**CLUNDENIN, PAUL**, first lieutenant and assistant surgeon. Ordered for duty as post-surgeon at Camp Pena Colorado, Tex. S. O. 14, Department of Texas, January 26, 1887.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE FOR THE SIX WEEKS ENDING JANUARY 29, 1887.

**WYMAN, WALTER**, surgeon. Granted leave of absence for three days, January 14, 1887.

**WHEELER, W. A.**, passed assistant surgeon. To proceed to Erie, Penn., as inspector, January 12, 1887.

#### SOCIETY NOTICE.

**SUFFOLK DISTRICT MEDICAL SOCIETY. OBSTETRIC AND GYNECOLOGICAL SECTION.**—There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, February 16th, at 7.45 o'clock. Communications: Dr. H. O. Marcy, "The Perineum: Its Functions and Restoration. Illustrated by Stereoscopic Projections." Dr. J. B. Swift, "A Case of Alexander's Operation."

JAMES R. CHADWICK, M.D., Chairman.

ROBERT B. DIXON, M.D., Secretary.

#### OBITUARY.

##### CRIDLAND CROCKER FIELD, M.D.

Dr. Cridland Crocker Field, of Eastern Pennsylvania, died at his home the last of November, aged nearly seventy, of neuralgia of the heart. He was widely known in his neighborhood and even outside his State as a surgeon, and had been in active practice nearly fifty years. Among the operations which gave him a reputation were the removal of a cervical tumor, with ligation and excision of a considerable part of the jugular vein; excision of the entire femur; excision of the entire radius; extirpation of the parotid gland, which difficult operation he has performed several times. His favorite region for operating was the neck, from which he has time and again removed tumors, which had entirely encompassed the carotid artery. He enjoyed a large consultation practice and came of a medical family both his father and grandfather having been in the profession, the former a member of the Royal College of Physicians of London.

##### DR. JOSEPH T. O. WEST.

The President of the Massachusetts Medical Society, Dr. Thomas H. Gage, at the recent meeting of its Councillors, announced the death of Dr. J. T. O. West in the following just and appreciative words: Dr. Joseph T. O. West, of Princeton, died after a brief illness on the 28th of January. A severe and distressing attack of laryngitis, with which he was seized on the 9th, was followed by pneumonia, nephritis, uræmic coma, and death.

The deceased was born in Barnstead, N. H., on the 21st of June, 1823. He was fitted for college at the high school in Lowell, and graduated from Dartmouth in the class of 1845. His professional studies were pursued under the direction of Dr. Nathan Allen, of Lowell, and he received his medical degree from Harvard in 1848. Subsequently, he practiced for a time successively in Holden, New York City and Lowell, removing from the latter place to Princeton in the autumn of 1854. There he remained, the sole medical occupant of the field, to the time of his death.

Dr. West's was a rare and beautiful character, and one that might properly receive a more extended notice than I can give it here.

To great natural abilities, trained, disciplined, and educated in the schools, he added high professional attainments, and the richer graces of a pure and consistent Christian life. And such natural endowments and acquirements, an intelligent and discerning people were not slow to recognize and appreciate. Thus it came about that early in his life, and to the end, he was respected, trusted, honored and beloved, as it falls to the lot of very few to be. Both profession and lady gave him, without reserve, their confidence and regard.

As a physician he was remarkably modest and unpretending, yet judicious and skilful, and equal to any emergency. High professional attainments and skill, and the wisdom gained by experience, he held as sacred trusts, to be administered under a sense of great accountability, and he was faithful to the solemn charge.

In his death, the community he had served so long, faithfully and well, and the transient summer visitors that throng the Princeton Hills, have sustained a great and irreparable loss. He was for more than thirty years their trusted medical adviser, their wise counsellor in times of trouble, and their friend; and it was a touching scene as the stricken people, yesterday, moving in mournful procession, and in grief and tears, laid him under the shadows of the great mountain, tenderly at rest.

##### DR. LUTHER MARTIN KNIGHT.

Dr. Luther Martin Knight, of Franklin Falls, N. H., died of chronic hepatitis, February 4th (?), aged seventy-seven years. He was born in Franconia, N. H., graduated from the Dartmouth Medical College, practised in Thornton for ten years and in Franklin forty-two years. He was surgeon of the Fifth New Hampshire Regiment in the Rebellion, afterwards chief of the medical staff of the Second Army Corps under General Hancock. He represented Franklin in the Legislature in 1854 and 1856, and has been president of the New Hampshire Medical Society. He leaves a widow and four children.

#### BOOKS AND PAMPHLETS RECEIVED.

Twelfth Report of the Salem Hospital. Salem, 1887.

President's Address. Tenth Annual Meeting of the Detroit Medical and Library Association. By C. J. Lundy, A.M., M.D. 1886.

Transactions of the Association for American Physicians. First Session. Washington, D.C., June 17 and 18, 1886. Philadelphia, 1886.

The Medals, Jetons and Tokens Illustrative of Obstetrics and Gynecology. By Horatio R. Storer, A.M., M.D., Newport, R.I., 1887. (Reprint.)

Report of the Board of Trustees of the Eastern Michigan Asylum, at Pontiac, for the Biennial Period ending September 30, 1886. Lansing. 1886.

## Lecture.

### MULTIPLE NEURITIS AND ITS RELATION TO CERTAIN PERIPHERAL NEUROSES.<sup>1</sup>

BY M. ALLEN STARR, M.D., PH.D.,  
Professor of Nervous Diseases, New York Polyclinic.

AN etiological classification of the cases of multiple neuritis appears to be the one most useful to the clinical observer, and as the forms vary considerably in their symptoms, we shall perhaps arrive at a more definite knowledge of the disease if we consider each of the classes separately. It is possible to distinguish

I. Toxic cases, due to poisoning by alcohol, arsenic, lead, and bisulphide of carbon.

II. Infectious cases, due to the direct action upon the nervous system of the infectious agents, producing diphtheria, variola, typhoid and typhus fevers, severe malarial fevers, and tuberculosis, to which must be added the agent causing the epidemic form of neuritis known as kakke or beriberi.

III. Spontaneous cases, due to uncertain causes, among which cold and exposure to damp and wet, and to over-exertion, may find a place.

#### I. TOXIC CASES.

(a) *Multiple neuritis, due to poisoning by alcohol.* While alcoholic paralysis has been universally recognized for many years, it is only within a short time that the symptoms and pathology have been brought into a logical connection.

All observers have emphasized the fact, already noted by Jackson, that the disease is especially frequent among females. Males are not, of course, exempt from alcoholic paralysis, but, in them, the poison seems more liable to manifest itself by acute cerebral symptoms than by those of disease of the peripheral nerves. It is especially frequent among those persons in the higher classes whose nervous organism is highly developed, and who lead a comparatively inactive life. It seems not at all improbable that sedentary habits predispose an alcoholic drinker to this disease, and hence active workers, male or female, though taking an equally large amount of liquor as the luxurious drinker, escape. All alcoholic drinks are not equally prone to produce paralysis. It is the spirituous liquors — brandy, whiskey, gin, and rum, and the liqueurs, absinthe, vermouth, etc. — which are dangerous. And it is only after these drinks have been consumed in large amounts, and for a considerable length of time, that neuritis develops. Its onset, though often apparently very sudden, is usually gradual. For months the patient has suffered from chronic gastritis, insomnia, general neuralgic pains, or severe pains in the joints or limbs, and from tremor and a certain feebleness in movement, when all at once her legs give way beneath her, and after the sudden fall she finds herself unable to rise. Thus a patient of my own, after a year of such premonitory symptoms, was seized with paralysis quite unexpectedly when getting out of bed in the night. This paralysis soon becomes complete in the feet and legs below the knees, and may advance up the thigh. It next attacks the hands and forearms, and while in all extremities, it is often greater in the extensors than in the flexors;

in some cases both groups of muscles become entirely helpless. This has been the case in three patients under my care. The paralyzed muscles are flabby and soon become atrophied, they have no excitability to mechanical irritation, and the tendon reflexes are lost. They fail to react to a faradic current in the majority of cases, though occasionally a very strong current may produce a response. When galvanism is applied, the reaction of degeneration is found to be present. No stimulus can be given to the muscle by sending a current through its nerve, and the positive pole produces more marked contractions with an equal current than the negative pole when placed on the muscle, and then it is only a slow or vermiform movement, not the quick jerk of health. It is also found that strong galvanic currents have to be used to produce any contraction at all. The paralysis of the muscles may advance rapidly in severe cases, involving the motor cranial nerves, the muscles of the trunk, and lastly, the diaphragm, thus causing death. More frequently, however, it is arrested when only the distal parts of the extremities are involved, and then it gradually subsides until recovery is complete. The position assumed by the paralyzed limbs has been thought to be almost characteristic. There is dropped wrist, quite similar to that seen in lead-palsy, and also dropped foot, due to the falling forward of the foot from its own weight, since the anterior tibial muscles are weak. This deformity is increased by the fact that the patients lie in a recumbent posture, with the feet extended; and when the flexors of the toes are but slightly affected, as sometimes is the case, their unopposed contraction serves to exaggerate the malposition. If there is entire paraplegia, the legs and thighs may both be extremely flexed, so that the heels touch the buttocks, but this is exceptional. While the dropped wrist is the usual deformity of the hands, cases are recorded in which the paralysis was limited to single muscles, and to muscles supplied by single nerves.

To the physician, these motor symptoms, and the oedema, occasional lividity, profuse sweating, and glossy skin, so often associated with them, are very noticeable. But the patient suffers far more from the disturbances of sensation. In the description of Jackson, the pains were graphically portrayed. They are the cause of terrible agony, sufficient to produce insomnia, and wearing seriously upon the endurance of the sufferer.

In addition to pain, hyperesthesia is not infrequently observed. It is usually quite extensive in the legs, though in cases of poisoning by absinthe it has been limited to the soles of the feet. The muscles, as well as the skin, are sensitive to handling and to pressure, and marked tenderness in the course of the nerves is always elicited by examination. In one of my cases, soon after the onset, the patient could not bear to be touched or moved, though perfectly unable to help herself. Charcot goes so far as to say that muscular sensitiveness, associated with flaccid paralysis, is pathognomonic of alcoholism.

Paræsthesia are always complained of. Numbness, tingling, and formication are frequent. In one of my patients the sensation was as if heavy bracelets were around the wrists, and as if very tight drawers were on the legs. At other times she felt as if the limbs were swollen, and as if the skin were about to burst. Such sensations may cease as the case increases in

<sup>1</sup> Lecture II of the Middleton Gohlanith Lectures, delivered under the direction of the New York Pathological Society, Jan. 28, 1887. For Lecture I, see page 101 of the Journal.

severity, and gives place to a total lack of sensation in the parts. They return, however, with advancing recovery, and are among the last symptoms disappear.

Abolition of tactile sense, and, to some degree, of muscular sense, is the rule after the paralysis is developed. Temperature-sense and the perception of pain are never wholly lost, but may be delayed in transmission. The anesthesia may be limited to irregular areas, and may be only in the cutaneous distribution of one nerve, but is usually found over the entire distal part of the paralyzed limb. Usually the cutaneous reflexes are preserved. The loss of muscular sense is, in some cases, so marked a symptom, and one of such early occurrence, that Dreschfeld distinguishes a class of cases which he terms ataxic, rather than paralytic. And this distinction is perfectly justifiable, for in many cases it is the incoordination which attracts the attention of both the patient and the physician. It is this class of alcoholic cases which may be mistaken for locomotor ataxia, and which has been named by French writers pseudo-tabes alcoolique. But ataxia is not exclusively limited to this class of cases. Nor are the cases of ataxia, on the other hand, free from paralysis.

And this fact is proven by the observations of Westphal and Charcot. There may be in both patients some tottering and swaying when standing with the eyes closed; the so-called Romberg symptom is common to both locomotor ataxia and alcoholic neuritis.

The special senses are occasionally affected in cases of alcoholic paralysis. Amblyopia has been observed, and also defected vision from central scotoma. The field of color-vision is often contracted, even when sight is preserved. There may develop a true optic neuritis, evident to the ophthalmoscope, and this may go on to optic nerve atrophy.<sup>2</sup> Inequality of the pupils is frequently seen, as is also a moderate contraction of the pupil. All these eye symptoms, occurring as they may in a case of the ataxic variety, make a differential diagnosis from locomotor ataxia difficult. The Argyll-Robertson pupil (which contracts in accommodation but not to light) has not been seen in in alcoholic cases, while it is an early symptom of tabes.

One feature of alcoholic paralysis remains to be noticed, namely, the cerebral symptoms. These are hardly ever wanting. There is at first the excitement rising to the degree of active delirium, with illusions and hallucinations of the various senses; there is the insomnia, which so soon exhausts the patient if it is not remedied; there is the loss of memory, especially of recent occurrences; and the lack of power of attention or concentration, which prevents intelligent conversation. The indifference to bodily wants may be so great as to lead to uncleanness, and since paralysis of the sphincter is the rare exception, incontinence is usually to be ascribed to the mental state. It is useless to attempt to get any reliable history of their illness from these patients. Their statements are unintelligible or unreliable. And here it may be well to notice a symptom first remarked by Strümpell. These patients will relate occurrences as having happened recently, with much elaboration of detail, when, as a fact, the story is entirely a product of their imagination. Thus, one patient of my own, who has

been confined to bed for many days, told me one afternoon that she had been out to see an eminent gynecologist during the morning; had gone to his office and waited for him several hours; had seen other patients there, and finally had been told by the doctor's brother that he would not return in time to see her, so she had come home again. And this was all related in apparent good faith, so that I have no doubt that she believed that what she said had occurred. With the possibility of such delusions in view, it is evident that the statements of these patients cannot be accepted regarding anything, especially as to their own history.

One patient, who was admitted to Bellevue Hospital during my service there, told me a different history of her case, every day for a week; and it was only by interviewing her friends that the correct account was obtained.

The course of alcoholic neuritis is quite uniform. After a sudden onset the symptoms rapidly advance to a high degree, which is reached in a week or two from the beginning of the paralysis or ataxia. Then they may increase further, and cause death by respiratory paralysis. Usually they remain stationary for a time, and then gradually subside, the entire duration being from two months to a year. Individual muscles retain their power, tone, firmness, and electrical reaction slowly, and during recovery the tingling and numbness in hands and feet may be severe. In a few cases the muscles become contracted, and permanent deformities, only to be overcome by long-continued massage, or by operative measures, develop. When the fact is considered that those who recover rapidly, rarely fail to resort again at once to the use of stimulants, and thus expose themselves to the danger of a relapse, the ultimate fate of the chronic cases is hardly more serious than that of those who get well.

Examples of the paralytic form were cited.

(b) *Multiple neuritis due to poisoning by arsenic.* It has long been known that an occasional result of arsenical poisoning is the development of paralysis, but it is only within the past four years that the fact has been determined that the symptoms in these cases are due to an affection of the peripheral nerves. Had the fact of the peripheral origin of alcoholic paralysis not been already proven, it is probable that the theory so long in vogue, that arsenical nervous symptoms were due to spinal lesions, would still prevail. But there is such a similarity between the two sets of cases, that it is impossible to ascribe them to other than the same pathological condition. Autopsies in support of the position that the peripheral nerves are involved, are few in number, but in several cases the lesion has been found. The observations on record of spinal lesions are, it is true, more numerous; but when these are compared it is found that different lesions have been discovered in different cases, so that there is no single pathological change in the spinal cord which is constantly produced by arsenic. Further, some of the changes described in experimental cases in animals (namely, vacuolization of cells) are due to imperfect hardening of the specimens. It must, therefore, be admitted that multiple neuritis may be due to arsenical poisoning.

The changes produced in the nerves are so exactly similar to those already described, that there is no need of a recital of the pathological process.

The nervous symptoms produced by arsenic have

<sup>2</sup> Brissaud, Des Paralyties toxiques, p. 31. Paris, 1886.

been thought to vary somewhat, according as the ingestion of the poison has been a sudden or a gradual one. Briassaud claims that if there is slow poisoning, as for example, by the long-continued use of Fowler's solution, paralysis is rather the exception, and is not severe—it is diffuse and transient; while other symptoms, such as gastro-enteritis, trembling, delirium, and aphasia attract the chief notice. If there is acute poisoning from an overdose of arsenic, he holds, on the other hand, that paralysis ensues either during the period of active symptoms of poisoning, or soon after. The observations of other equally careful authors do not entirely support this view of Briassaud; for in two cases of Dana, one of acute, the other of chronic poisoning, very similar symptoms of paralysis and ataxia developed.

The description which has been given of alcoholic paralysis might almost be repeated for arsenical paralysis. There is the same limitation of the affection to the muscles of the distal parts of the extremities, the extensors being chiefly affected, and the weak muscles are flaccid, soft, and atrophied. There is a partial reaction of degeneration. The tendon reflexes are abolished; skin reflexes are preserved. There is often a marked tremor. The paralysis may begin either in the feet or in the hands, is usually bilateral, but has been in four cases of the hemiplegic type. The same dropped wrist and dropped foot are seen as in alcoholic cases. Disturbances of sensibility are prominent symptoms; burning, tearing, shooting pains; formication, tingling, muscular, and arthritic pains and tenderness are associated with hyperæsthesia, and this may be followed by irregular patches of anæsthesia. The muscular sense is usually impaired, and so much so in some cases that an attempt has been made to establish a distinct class of cases as arsenical ataxia, or pseudo-tabes arsenicale. In these cases the incoordination of hands and feet—Romberg's symptom—and an awkward gait are very noticeable, so that tabes may be suspected until the history makes the causation evident.

(c) *Multiple neuritis due to poisoning by lead.*—It is not my purpose to enter upon any description of the various forms of lead palsy, which are familiar to every practitioner. Nor is this the proper place for a discussion regarding the various theories of the pathology of the disease. It is only necessary to call attention to the fact that there are now on record a number of autopsies in cases of lead paralysis in which the lesion has been found in the peripheral nerves. In a recently published case of Schultze there was found a very marked atrophy and disappearance of nerve-fibres in the trunk of the musculo-spiral nerve, below the point where the branch to the supinator longus was given off. This decreased in intensity centrally, so that at the brachial plexus no anomaly was found. It increased in intensity toward the termination of the nerve in the muscles. The spinal cord was normal. This is simply a type of a number of recently published cases. On the other hand, there are numerous cases of this disease in which decided spinal lesions have been found—so numerous that many writers ascribe the disease always to destruction of certain groups of cells in the anterior cornua of the spinal cord. It must be admitted, therefore, that in lead we have a poison which, under certain circumstances, affects the spinal cord, and under other circumstances produces neuritis.

## II. MULTIPLE NEURITIS CONSEQUENT UPON INFECTIOUS DISEASES.

There are a number of infectious diseases which are especially liable to be followed by the development of nervous symptoms. These are diphtheria, variola, typhoid, typhus, and scarlet fever, malarial fever and tuberculosis. The nervous affection usually appears shortly after the period of convalescence in the acute fever. The disease may consist of a simple paralysis of the muscles in the region of distribution of a single nerve. It may affect several nerves on both sides of the body symmetrically. It may even paralyze two or more limbs. It occasionally produces sensory as well as motor symptoms in a single nerve-trunk. It may even cause a general sensory and motor paralysis of as widespread and complex a kind as that produced by chronic alcoholism. Sometimes the symptoms are chiefly of a sensory kind, and consist exclusively of pains, numbness and anæsthesia, or hyperæsthesia, in the legs, or of a loss of the muscular sense, in which case a true ataxia is the most noticeable symptom. Thus it is evident that the poison of an infectious disease may act as powerfully upon the nervous system as any other form of poison known.

It is only since the clinical pictures presented by multiple neuritis have been recognized that a question has arisen as to the part of the nervous system affected in these cases. Formerly all such phenomena were referred to central lesions; and undoubtedly in many cases this was justified, since autopsies are not wanting to prove that anterior poliomyelitis, diffuse myelitis, and hæmorrhages into the cord and brain may follow the acute fevers. There are, however, many conditions which do not correspond to the types of disease produced by central lesions, and which recover with a rapidity impossible were the brain or spinal cord involved. It was these cases which raised the question of some possible affection of the peripheral nerves. And careful investigation has been rewarded by the actual discovery of lesions in them.

(a) *Diphtheritic paralysis* is probably more common than any other of these forms of neuritis. As is well known, it is usually the soft palate to which the paralysis is limited, and, as a result, difficulty in swallowing and in speech are the most prominent symptoms. Bernhardt has found that in the large majority of cases of this kind there is a loss of the patella tendon reflex, but whether this indicates any general affection of the peripheral nerve he does not venture to state. The limitation of the paralysis to the palate has been explained by supposing that the poison of the disease has a direct action upon the terminal filaments of the nerves, which, in this position are, as it were, dipped constantly in the poison. This theory is supported by a case in which paralysis of the abdominal muscles was associated with diphtheritic inflammation of the navel in a new-born child. But the more serious cases prove that through the blood the poison may be carried to nerves far removed from the seat of the diphtheritic inflammation.

The prognosis in cases of diphtheritic paralysis is usually very good, the fatal cases here cited being rarities. The treatment consists in general tonic medicines, and the application of electricity to the limbs in the same manner as in other cases of neuritis.

(b) *Neuritis following variola* is a rare complication, and but one, the following case, is the only one

on record in which an autopsy proved the seat of the lesion.

*Observation XVII.*—A young man had varioloid in November, 1881, and while convalescing, six weeks later, began to suffer from severe pains in his four extremities, especially in the joints of his arms, which were diagnosed as rheumatic, although there was no fever. Soon after there followed a true paresis, with progressive atrophy of the muscles of forearms and legs. The muscles at the same time became very tender to touch or pressure. The tendon reflexes were much diminished. Reaction of degeneration developed in all the parietic muscles. The pains in the joints and limbs continued, but were less severe than at the outset. The sensibility of the skin was about normal. The nerve-trunks were tender to pressure. Profuse, offensive perspiration in all four extremities was a distressing symptom. There was no tendency to bed-sores, but an extensive pemphigus developed in the legs, and then the pains became more severe. The patient died in July, 1882, of pneumonia.

Autopsy showed the brain oedematous, and the cord in a state of hypostatic congestion. The pathological changes of importance were found in the nerves and muscles. The majority of the nerves of all the extremities were found in a state of degeneration and atrophy. There was marked degenerative atrophy and fatty degeneration of the muscles.

(c) It is still somewhat a matter of conjecture whether cases of paralysis following typhoid, typhus, and malarial fevers, are due to an affection of the peripheral nerves or of the spinal cord. The researches of Pitres and Vaillard\* have shown that extensive degeneration of peripheral nerves is to be found in the bodies of patients who have died of typhoid fever, and they have also demonstrated that these fevers are often followed by local neuritis as a sequel. Cases of multiple neuritis with autopsies have not as yet been reported after typhoid or typhus; but Bazzard has recently recorded† two cases, following malarial fever, in which all the symptoms pointed to an affection of the peripheral nerves. In this country Gibney has described several cases of paralysis of the extremities, of sudden onset, rapid course, and prompt recovery under large doses of quinine, which he considered malarial.

(d) We come, lastly, to those cases of multiple neuritis which occur in tubercular patients, or in those who have had syphilis. If a review of the cases of multiple neuritis already cited be made, it will be found that quite a number of the patients died of phthisis. This was true of the cases of Joffroy, Eisenlohr, Strümpell, Webber and Müller. Oppenheim has reported cases of multiple neuritis in tubercular patients, which went on to recovery.

Although syphilis has been described as a cause of neuritis, I cannot find that the lesion in the few cases examined has had the peculiar characteristics of syphilitic lesions elsewhere in the body, and therefore it seems to me doubtful whether we are justified in describing a syphilitic multiple neuritis. Further facts are needed to establish its existence.

(e) It only remains to consider briefly the epidemic form of multiple neuritis, and our study of the infectious cases will be complete.

In 1882, Professor Scheube, of Tokio, Japan,

called the attention of European physicians to the existence of a peculiar affection prevailing among the Japanese. It was called kakke; from two Chinese words, *kiakke*, meaning legs, and *ke*, meaning disease. It had been known among the Chinese for centuries, being mentioned by name in Chinese medical books written two hundred years before the birth of Christ, and fully discussed by an eminent author in 640 A.D. It ceased, however, to prevail in China about two hundred years ago, and its ravages are now confined, according to Scheube, to Japan. There its importance is considerable, since it is so prevalent that in 1877, fourteen per cent., and in 1878, thirty-eight per cent., of the men serving in the army, suffered from it. It is considered a miasmatic infectious disease by Scheube, although an eminent Japanese authority considers it due in some way to the diet of rice. That diet has something to do with its occurrence is proven by the fact, communicated to me by Dr. Wallace Taylor, that since wheat has been substituted for rice in the diet of some of the barracks and prisons in Japan, the disease has been less common. It occurs in epidemics, but is always endemic in Japan. It does not attack Europeans. It affects females rarely, only nine per cent. of the cases being in women; and it is the youth of the land, between the ages of sixteen and twenty-five, who are attacked. Exposure to damp and cold in crowded dwellings, such as barracks, increases the liability to the affection. The majority of the cases occur during the hot months, but some are always under observation. This disease is not, however, confined to Japan. It has been observed for many years in the islands of the Pacific Ocean, in India, Ceylon, on the west coast of the Red Sea, in Borneo and New Guinea, in Brazil and Cuba, and its prevalence in the Dutch possessions in the China Sea has made it familiar to physicians from Holland who have visited these colonies. It is there known under the name of beriberi. It is endemic in these regions, but occasionally occurs as an epidemic. An interesting account of such an epidemic, occurring in 1882-83, in Manila, the chief city of one of the Philippine Islands, has been given by Dr. Koeniger. It appears that in the fall of 1882 an epidemic of cholera occurred in Manila, of such severity, that twenty thousand persons, in a population of four hundred thousand were affected. As a precaution against this disease, the native population lived for several months almost exclusively upon rice, refusing to eat fruit or fish, which are their other chief articles of diet. As the epidemic was subsiding, a terrible cyclone devastated the city, destroying the light wooden houses, and leaving sixty thousand families homeless; and these poor people were exposed for several weeks to the inclemency of the weather, which at this time of the year is rainy. A few days after the cyclone, the epidemic of beriberi began, and as the disease had never before appeared in Manila, the unknown affection excited great alarm. This was increased by its fearful mortality, sixty per cent. of the early cases proving fatal. Europeans were exempt, with two exceptions, and the Chinese population did not suffer greatly, but among the natives the epidemic was widespread. Thus, in one suburb of Manila, of twenty-five thousand inhabitants, three hundred died in the course of eight weeks. Men and women were equally affected, and persons of all ages, except young children, were attacked. The disease terminated fatally in from ten

\* *Rev. de Méd.*, 1884, p. 980. Des Névrites périphériques.

† *Paralysis from Peripheral Neuritis*, p. 104.

days to five weeks after its onset; but as time went on the proportion of recoveries increased, and by the end of March, 1883, it had almost disappeared. The months from October to March are the dry, cool season in the Philippine Islands, although the climate is tropical. Exposure to heat could hardly be considered a cause of this epidemic, but whether the exposure to cold and damp, or the diet of rice, or the transportation of some infectious agent by the cyclone was the cause, gave rise to much discussion, and could not be determined.

Sporadic cases of beriberi, or kakke, occasionally appear in our hospitals, usually on the persons of Chinese or Malay sailors, or on the persons of travelers from tropical climates, who have been exposed to the infection in the place from which they came. Three such cases have recently been reported by Dr. Seguin, of this city, in patients who came from the West Indies, and a case observed in Bellevue Hospital, by Dr. J. West Roosevelt, was discussed in the Academy of Medicine recently. In 1881, a Brazilian naval vessel entered San Francisco with a large number of the crew affected by the disease. They were sent to the United States Marine Hospital, and attended by Dr. Hebersmith, who gave an interesting account of the circumstances leading to the development of the disease, in the United States Marine Hospital Report.

Only last year a commission was appointed by the Dutch Government to investigate the subject of its nature, and the recently-published report contains the following statements: The disease is caused by a microorganism resembling the bacillus of splenic fever, though somewhat smaller, which color with fuchsin and gentian-violet, and can be seen with a power of 560 $\times$ . These bacilli are found in the blood, lungs, heart, brain, cord, and nerves of the patients, and can be cultivated outside of the body. The germs infect wooden dwellings chiefly. They may be conveyed by articles of clothing, and probably enter the body by the lungs. Direct contagion has not been observed. A potent predisposing cause to their reception in the body and to the development of the disease, is lack of nutrition consequent upon exposure to damp and to cold, and upon insufficient or bad food. It must, however, be added that a most thorough examination in Dr. Roosevelt's case, by Dr. Prudden, failed to reveal the presence of such bacilli.

In the light of these recent investigations, a new view is taken of an epidemic of a peculiar kind which occurred in France in 1828. Buzzard has found an account of this, prepared by Graves, in which the symptoms are so fully detailed as to leave no doubt that it was an epidemic of multiple neuritis.

The cases of beriberi are divided into two general classes, according to their severity.

There are, first, slight cases, in which the onset is gradual, being usually preceded by a little fever, coryza, and conjunctivitis, which cease when the actual symptoms commence. The patient first notices a weak and heavy feeling in his legs, and finds that he tires so easily that he cannot walk as much as usual. The tired feeling is soon associated with numbness and pain in the legs, and with a slight edematous swelling. Then, if not before, palpitation of the heart, oppression and weight in the epigastrium, loss of appetite, and general malaise are felt, and the patient finds it necessary to apply for treatment. An examination

then shows some diminution of power in the feet and legs, and also in the hands, with loss of tendon reflexes, and much tenderness in the muscles, which show a diminished electric excitability. There is never any ataxia, though the patient sways when his eyes are closed. There is discovered a slight degree of anesthesia, of irregular distribution, chiefly in the legs and in the radial-nerve region on the forearms. Though the patients look pale, it is usually impossible to find anemia by examination of the blood. The circulation in the extremities is sluggish. The heart is irregular and rather rapid, and the edema of the extremities indicates a failure of its power. Dr. Wallace Taylor finds that a sphymographic tracing is characterized by a sudden high upstroke in ventricular systole, by a precipitous descent from the apex of the percussion wave, and by diastolic. Beyond this point, these cases, which make up the majority, do not advance. They usually recover in a few days, or, at most, a month, although a few become chronic, and require several months before the cure is complete. There are, secondly, severe cases. These may present three different types: There is the atrophic or dry type, in which, after an onset similar in nature to that in the slight cases, but much more rapid, the weakness develops into a true paralysis, associated with marked wasting of the muscles and reaction of degeneration, with great diminution of galvanic excitability. Within a week the patient has to go to bed, and then the paralysis soon spreads from the legs to the arms, and may involve the trunk, and even the face. The entire muscular system wastes away, till the patient is a mere skeleton. In addition to the motor symptoms, there is great sensory disturbance. The suffering from pain, paresthesia, and general muscular tenderness, is extreme, and the patient lies totally helpless and unable to tolerate the lightest touch. The skin may be glossy. There is usually some anesthesia, but it is never complete, although it may involve the entire body. The temperature-sense is seldom affected. Pain may be delayed in transmission. There are no gastric symptoms, and no edema. Some cases prove fatal from general exhaustion or intercurrent disease, but the majority recover after a convalescence which lasts a year or more, during which the muscular system is rebuilt.

There is, secondly, the hydropic or wet type. In these heart-failure appears early, and is associated with a marked decrease of arterial tension and much edema of the entire body, effusion into the cavities being added to that beneath the integument.

The swelling of the edematous parts conceals the atrophy which is going on in the muscles, but this is indicated by the paralysis, which is as severe as in the preceding form, and it becomes evident during recovery, when the edema has subsided.

There is, thirdly, the acute, pernicious type. In this all the symptoms of the two former types appear in rapid succession, and, in addition, gastro-intestinal symptoms and a suppression of urine combine to make the condition an alarming one. Effusions into the pleura and pericardium appear early. The pulse becomes small and irregular, and cyanosis indicates the heart-failure which precedes death.

In this form, the disease may run its course in two weeks to a fatal termination. This was the form which chiefly prevailed in Manila, the cases of the atrophic form being the ones which recovered.

The severity differs much in different epidemics, the mortality varying from two per cent. in Japan to sixty per cent. in Manila. It is usually not above three per cent. In all the forms there is some danger of a sudden heart-failure, and this is usually the cause of death.

The morbid anatomy of this disease is, primarily, a multiple peripheral neuritis, with, secondarily, numerous organic changes in various organs, none of which, however, are essential to the disease.

While we cannot join in the wish expressed by an enthusiastic German author, that the disease may soon become a familiar one to those outside of Japan, we cannot pass it by without a brief reference, especially as it resembles in so many of its features, as well as in its pathological basis, the condition which has occupied our attention at present. And it may not be unprofitable to obtain a clinical picture which differs somewhat from that already viewed, in connection with the forms more familiar to us, in order to detect sporadic cases of the disease, if such should appear among us. As to its treatment, it may be mentioned that quinine failed to influence its course, and that heart stimulants to combat the dangerous complications, hypnotics to counteract the pain and insomnia, and general tonic treatment have proved of the greatest service. Change of climate often is attended by recovery. In the stage of recovery, electricity and massage have been employed with advantage.

(To be continued.)

### Original Articles.

#### PERSONAL EXPERIENCE IN THE TREATMENT OF CANCER.<sup>1</sup>

BY J. COLLINS WARREN, M.D.,  
Assistant-Professor in Surgery, Harvard University; Surgeon to the Massachusetts General Hospital.

I HAVE chosen this title for my paper this evening, not with the intention of bringing before the Society any new or original mode of dealing with this disease, nor of presenting any carefully-tabulated series of cases, but simply for the purpose of recording a few of the conclusions which I have arrived at, in the hope that they may not be without interest to others.

I regret to say that I have no data which throw any light on the etiology of this disease. It may not be out of place, however, to notice a few facts bearing upon this point which the literature of this subject affords. The influence of locality seems to be not without its effect upon individuals. A notable example of this has been observed in the cobalt mines of Schneeberg, where all the men, who work a certain number of years in the mines, die of lympho-sarcoma of the lungs, but none of the persons employed in the neighborhood are affected with this disease.

It has been said that in tropical climates cancer is much less frequent than in the temperate zone, but I have not had an opportunity of studying any statistics bearing upon this point. It is stated that Dr. Haviland has found from statistics that, while high and dry lands are free from cancer, the courses of large rivers subject to seasonal overflow are hot-beds of cancer, the inference being drawn that the organisms of cancer

thrive only or chiefly in moist districts, or in the tissues of those who reside in moist river districts.<sup>2</sup> So far as I am aware, no such geographical distribution of cancer has been observed in New England.

It would exceed the scope of this paper to endeavor to accumulate evidence upon the origin of cancer from injury or inflammation. Examples of cancer following a continual irritation are sufficiently numerous, as in the lip, to justify the assumption that there may be some relation between the local irritation and the new growth. One of the most malignant forms of cancer of the breast that I have seen, dated its development from a blow. The patient was a healthy and finely-developed Irish servant-girl, under thirty years of age. She received a severe blow from a base-ball, and the inflammation thus produced left a hardness, which did not disappear. So rapid was the growth, that an exploratory incision was needed to confirm the diagnosis of cancer.

A chronic balanitis, with thickening of the prepuce, due to an attempt on the part of a patient to cure a phymosis with a razor, was followed by an epithelial ulcer in the sulcus, below the corona. Excision of the ulcer in this case had not been followed by a return of the disease when the patient was seen a year or two later.

On the other hand, there may be a chronic inflammation of an organ, frequently attacked by cancer, which may continue for a long time without the development of any malignant growth. More than one case of chronic mastitis, with inversion of the nipple and a gland in the axilla, have been sent to me for a diagnosis, which have terminated either in resolution or suppuration. In two cases at present under observation, the inflammation appears to have been caused by the malformation of the nipple which had always existed.

We hear less of the influence of heredity in cancer to-day than did the students of twenty years ago; an example given by Sir James Paget is, however, sufficiently striking to quote: A lady died with cancer of the stomach; one of her daughters died with cancer of the stomach, another with cancer of the breast; of her grandchildren, two died of cancer of the breast, two of cancer of the uterus, one of cancer of the axillary glands, and one of cancer of the rectum. An almost equally marked example is furnished in the case of Miss B., reported below. I have, however, little faith in hereditary tendency, at least, so far as cancer is concerned.

#### CANCER OF THE FACE.

It has been the fashion, particularly in England, to divide cancer of this region into two varieties, namely, cancer of the lip and rodent ulcer.

The great variety of growths placed in the latter category present essential differences, both in development and outward appearance. In many the ulcerating type is absent. They all present a mild type of malignancy, although there may be great variations in this respect within certain limits.

It has been stated that these growths occupy the region of the face situated above the line of the mouth, and this is undoubtedly the case, as a rule. I have, however, at present under treatment a case of epithelioma of the rodent type upon the chin, and have observed them even upon the neck, behind the ear.

<sup>1</sup> Read before the Boston Society for Medical Improvement, January 24, 1887.

<sup>2</sup> H. T. Bullin. International Encyclopedia of Surgery, Vol. IV.

That variety which is usually developed from the epithelial layers of the skin, and frequently accompanied by that condition of the skin of the face and hands known as *keratosis senilis*, is apt to be multiple, and some of these growths may become quite voluminous. Both this variety and that which springs from the sebaceous glands may, at times, assume the ulcer type, though this form does not seem to belong essentially to either.

I am inclined to agree with Mr. Hutchinson's view, that locality has a strong influence upon type. The ulcerating form is most frequently seen near the nose and eyelids; the papillary or tuberosus form more frequently on the cheeks and temples. The crateriform ulcer recently described by this author is an example of an active-cell growth, with consequent central degeneration. It is one of the most exuberant and active types of the so-called rodent ulcer family. A very perfect example of this disease I had the opportunity of watching from its early stages recently. At first a nodular mass was seen on the right temple, about the size of a small nipple. The centre was slightly umbilicated. A sudden increase in the rapidity of growth, with corresponding increase in the size of the central depression, developed its crater-like appearance, and necessitated active surgical interference.

Examples of the multiple growths are not uncommon. Mr. J. B. M., a gentleman sixty odd years of age, has been under my observation for ten years, during which time a very large number of epithelial growths have been removed from the face and hands, some of considerable size. During this period he has also been under Dr. White's care for a very striking form of *keratosis*. One of those curious freaks of which many diseases are capable has occurred within the past year. Last summer he had a small growth removed from the eyebrow. A larger growth of epithelium was beginning to form on one ear, and a fresh outbreak of the disease appeared imminent. A sudden and marked improvement began about three months ago, and his face and hands appear to be entirely free from *keratosis*. He attributes this change to the persistent use of vaseline at night.

I have had but little experience with the use of caustics, as I find little difficulty in persuading patients to resort to more radical measures. Very small growths may be destroyed by an application of nitric acid, or boring with a pencil of nitrate of silver.

When not of minute size the question of deformity becomes the most important one in determining between excision or the curette and cautery. Small epithelial growths or ulcers may be neatly removed by excision. A linear wound, held together by two or three stitches, needs no dressing and unites by first intention. If the sutures are removed early the scar will soon be difficult to find. The cautery will be much more likely to leave a visible scar in the shape of a smooth and white and slightly depressed cicatrix. If, however, the disease is situated in some sharp angle of the face, as in the neighborhood of the nose, it is difficult to be as economical of tissues with the knife as with the cautery, and the use of sutures is liable to bring the edges of the wound together in a way which will produce more deformity than when nature herself is allowed to borrow skin from all directions. A prominent ridge near the nose or eye may be avoided by allowing the wound to heal by granulation.

When larger wounds are necessary, an attempt at healing by first intention will cause some constitutional disturbance which may not be desirable in old and feeble individuals. The cautery leaves an open wound protected by an eschar, and subsequent pain and fever are rarely observed. Ordinarily these wounds need no dressing for the first few days, and when of considerable size may heal by scabbing. Occasionally there may be a secondary hemorrhage, which is usually a slight affair and easily checked, but it is likely to alarm the patient and necessitate an uncomfortable bandage. In extensive disease or irregular-shaped growth of the face, however, it causes far less deformity than the knife. The curette should always be used with the cautery, as the soft superficial masses of epithelium are readily removed in this way; the finger-like projection of epithelium into the subjacent fibrous stroma can be readily attacked by the hot platinum. The curette should never be used alone even in the smallest growths, for there is almost in every case a projecting off-shoot of the disease penetrating the denser tissues which will escape the instrument. The stick of nitrate of silver may be substituted for the cautery in such cases.

A striking instance of the advantages of the cautery (Paquelin) has recently occurred to me. The disease had involved the integuments of one side of the nose and an adjacent portion of the cheek, and had begun to invade the opposite side. One ala was entirely destroyed, and the part above the inner canthus of the eye, a dangerous locality from a prognostic point of view, was on the point of being invaded. A thorough use of Paquelin's cautery, under ether, completely removed the growths at one operation and the nose is now covered with a clean and smooth cicatrix. No pain or constitutional disturbance was experienced at any time by the patient, who was seventy-five years of age. For several days the eschar served as an excellent dressing, and no other was used until later.

Since the introduction of cocaine I have used it in several cases with satisfactory results. An ulcer on the chin, about the size of a half-dollar, was cauterized without pain, although the epithelial masses penetrated quite deeply. No other assistance was given than that of the patient himself, who worked the bulb vigorously while the cautery was applied. It was necessary to use the subcutaneous injection of a few drops of a twenty per cent. solution at several points in the periphery of the ulcer. Alarming symptoms have been reported as following the use of three drops of a solution of this strength under the mucous membrane of the mouth. I have noticed on two occasions in this patient, symptoms of faintness and distress apparently due solely to the cocaine, but these have followed also the injection of a ten per cent. solution in the same individual. The anesthesia has not been complete in this case, except after the use of the twenty per cent. solution. Where there is an ulcerated surface it can be painted over with one of the weaker solutions with good effect. It promises to replace ether in a certain number of cases.

The care of the skin is an important feature of these cases. The epidermis must be kept in a soft and pliable condition, and not allowed to accumulate. Various substances, as salicylic acid or zinc in vaseline as a vehicle, may be applied after washing with appropriate soap. The liability to recurrence varies, of course, with the progress the disease has made, but

some cases recur with obstinacy even when removed at an early stage. An example of this characteristic is shown in the case of Mrs. P., aged about sixty, from whom I removed a nodule on the bridge of the nose, in 1872. A suspicious scab was removed shortly after, but the microscope failed to detect any cancerous cells in it. The disease returned in about eighteen months, and before she could make up her mind to another operation, had involved the integuments of the whole bridge of the nose. It was thoroughly cauterized under ether, but in a year or two it broke out again; treatment was continued until 1883, but as I was unable to promise a radical cure the patient finally abandoned treatment. She is, I think, still living with a well-developed rodent ulcer on this region.

As a contrast to this case, that of Mr. S., eighty-two years of age, may be mentioned. He was operated upon in May, 1882, for an extensive ulcer at the outer canthus of the right eye, involving the conjunctive and some of the tissues of the orbit. Although the sight of the eye has been destroyed there has been no return of the disease. He has consulted me since for several small nodules near the lid of the left eye.

#### CANCER OF THE BREAST.

The favorable results which have attended a more radical operative treatment of this affection have given encouragement to surgeons to hope for cure in many cases which formerly were thought suitable only for palliative measures.

The rule has been laid down by some authors that in all cases there should be a thorough dissection of the axilla, whether glands are felt there or not; and some, notably Dr. S. W. Gross, of Philadelphia, recommend a more extensive removal of the tissues of the breast, leaving often a wound which can only be healed by grafting.

The anticipation of glandular disease of the axilla, seems to me a very important step forward in the surgery of the breast. The lymphatic vessels and glands, which are the routes through which the disease travels, are destroyed, and isolation of the disease is more effectively produced in this way than in any other. Small glands may, moreover, already exist, which cannot be detected by the touch of the finger through the integument. It has been my experience to dissect out the pyramidal mass of fat which fills this region, and to find one or two nodules enclosed in its centre, which could not be felt before the operation.

The ordinary duration of this disease if left untreated is said to vary from six months to three years, taking the average of cases. With this period as a standard it will be seen that life is not prolonged in many cases by the operation. But a careful inquiry into the future history of hospital patients would, I think, bring out replies which would prove encouraging.

The following cases are selected as fair samples of what may be accomplished by the present more radical operation.

*Eighteen months' immunity.* Mrs. B., Amesbury, Mass., about sixty years of age. Disease had existed two months. A hard and voluminous cancer of the breast, with large glands in the axilla, extending as high as the clavicle. The breast was amputated and the axilla carefully dissected out, all glands having

apparently been removed. The case was not promising, and one which in former times I should have declined to operate upon. The operation was performed July 9th, 1885, and Dr. H. G. Leslie writes me at present date that there is no evidence of a return of the disease.

*Nearly two years' immunity.* J. D., about forty-five years of age, was operated upon at the Hospital, March 29th, 1884; she had had a tumor nine months, at the time of the operation it was the size of an orange. The records state that no axillary glands were removed, although the cicatrix was seen to extend two or three inches beyond the edge of the pectoralis major when she was examined on her return to the hospital last week, for the removal of a small nodule in the cicatrix, at the axillary end, about the size of a coat button. No glands are felt in the axilla. The microscopic examination by Dr. Whitney showed the original tumor to be a medullary cancer.

*Two years' immunity.* Miss B., about forty years of age, was operated upon in December, 1884. Had first noticed a tumor in breast the previous winter, but had noticed an eczema of the nipple in 1883. A careful dissection of the axilla was made in this case, although no glands were felt. On opening the mass of fat removed, one small cancerous nodule was found in its centre. Inquiry of her physician, Dr. C. P. Putnam, last December, elicited the fact that no return of the disease had been reported at that date.

An interesting feature of her history was the prevalence of the disease in her family. Her maternal grandmother died of cancer of both breasts at the age of thirty. A maternal aunt died of cancer of the breast. A cousin on mother's side died of cancer of the rectum. Aunt on father's side was operated upon at the Hospital in 1883, for a cancer of the breast.

*Two and a half years' immunity.* Miss J., Haverhill, Mass., was operated upon in June, 1884. The breast was very voluminous and the cancerous nodule was small and situated near the sternal boundary. Nevertheless, the incision was carried into the axilla and a portion of the axillary fat removed. I have seen the patient quite recently; her health is excellent and she is able to attend to all her duties, which are quite onerous.

*Three years' immunity.* Grace M., forty-five years old, was operated upon at the Hospital in July, 1883, for a scirrhus of three years' standing, which had not involved the axilla. The tumor had slowly increased in size during this time and the nipple was extracted. She was seen last Spring and carefully examined, the parts being found in a perfectly healthy condition. Her health is good, and she has been in active service since the operation.

Two other localities which are occasionally the seat of cancer may be briefly mentioned in this paper.

#### CANCER OF THE RECTUM,

would not appear to me to be of so frequent occurrence in this country as in England or the continent of Europe, comparing my own experience with the statistics of foreign writers. The worst form of this disease which I have met with has been in the cases of two young women.

The first case was a woman twenty-three years of age. The symptoms were of one year's standing, when she entered the hospital. The patient suffered

great pain in defecation, but the anus was not involved, the disease being wholly within the rectum, which it nearly filled with a very dense mass of tissue. An incision through the disease and sphincter was performed with but temporary relief, and a few weeks later lumbar colotomy was performed, which gave considerable relief, which continued until her death about nine months later.

The second case was a lady about thirty-five years old, with a voluminous growth springing from the anterior wall of the rectum, and filling out the perineum. The pain in this case seemed to be due largely to the growth of the mass, and was largely in the hip. There was also tenesmus and frequent desire to defecate although no obstruction. An active application of the actual cautery was made, as it was feared that colotomy would not relieve the symptoms in this case. The operation freed her from pain, but she sank and died apparently from no special inflammatory process, about three weeks later.

Attempts at extirpation have been quite unsatisfactory, and I am inclined to advise as little interference with the disease locally as possible, unless it be seen at a very early stage. But such a case has never presented itself to me. Indeed, I have never seen one where it seemed mechanically possible to remove the whole growth.

Colotomy is a palliative operation in certain cases, but not by any means in all; for those near the anus it may relieve the acute local pain; for those higher up it is only indicated in case of marked obstruction which, however, does not always occur.

#### CANCER OF THE OESOPHAGUS.

My experience with dilatation of the stricture produced by the disease in this locality has not been encouraging. The painful nature of the treatment and the rapidity with which obstruction occurs on its discontinuance, make this a method unsatisfactory to both surgeon and patient. On one occasion, an attempt to pass the ivory probang in a very old lady with cancerous stricture, although made with great care and gentleness, was followed by death of the patient three days later. In another case, the persistent and most careful use of the bougie, although it kept the stricture from closing entirely, did not prevent great irritation of the oesophagus from obstruction. Considerable inflammation occurred around the locality of the disease, tracheotomy was performed, and at the autopsy, some weeks later, perforation of the oesophagus was found, with the production of which, of course, I had the privilege of being accredited. In a case which has been under treatment during my present service at the hospital, I have accordingly tried the operation of gastrostomy. Until the termination of the case it will not be possible to express an opinion on its merits and disadvantages. The management of the fistula requires an amount of intelligence which the average hospital cannot always be depended upon to possess.

The use of a flexible tube permanently retained in the oesophagus offers certain advantages over either of the other methods, which would incline me to give it a trial.

In regard to the efficacy of drugs in the treatment of cancer, I have had no positive results.

Arsenic has been tried repeatedly in cases of lympho-sarcoma, without the slightest success. In a

recent case of this disease an exploratory incision was made, and since the wound thus made has healed, the tumor has slightly decreased in size. This result may have been due to severing some of the vascular connections of the tumor. I have used chian turpentine also in several cases, without any effect, in cancer of the breast, of the oesophagus and rectum.

The recent publication by Mr. Clay, of cases of successful treatment of cancer of the lip, tongue and uterus, has again called attention to this drug, and the mode of administering it is accordingly given here. Mr. Clay maintains that physicians are too easily discouraged, and that its administration should be continued through the period of at least three months, in order to obtain favorable results.

The mixture which Mr. Clay recently recommended was the following:

Chian Turpentine	...	...	3iss
Flor. Sulph.	...	...	3i.

Divide into thirty pills.

Magnesia should not be used as an excipient, and they should not be coated.

Two pills should be taken three times a day for three weeks; then three pills three times a day, or twenty-seven grains of chian turpentine daily. They should be taken about one-half hour after eating; after being taken for three months, they should be discontinued for three days in every fortnight. Messrs. Metcalf & Co. write me, "The mixture he had made contained five grains of the chian turpentine and two grains of sulphur to the teaspoonful, made up with mucilage of tragacanth. The pills have been much used, but the mixture being rather unsightly and not agreeable to the palate, has fallen out of use." The "Southall" mixture, which he has recently advised, contains resorcine instead of sulphur, but its composition I have not been able to ascertain. I have myself used the following combination:

R.	Chian Turpentine.	
	Resorcine	.. as 3ii.
	Mucilag. Gum Acae.	.. 3ii.
	Aq. Cinnam.	.. 3i.

Sig. Teaspoonful three times a day.

If carefully prepared it is not a disagreeable mixture, but most patients prefer the pills.

I am one of those who are hopeful that a bacterial study of this affection may further our knowledge of its etiology, and pave the way to a more intelligent treatment. It may be that, like the treatment of traumatic infective diseases, this may be prophylactic rather than curative. But it hardly seems possible that with so rapid advances in surgical knowledge in other directions, we should still continue to remain nearly helpless to aid humanity affected with so terrible a disease.

#### THE SO-CALLED PHYSIOLOGICAL LOSS IN INFANTS.

BY CHARLES W. TOWNSEND, M.D.

It has been found that every infant loses weight during the first few days of life. To what is this loss due? Is it physiological or pathological? Can it be prevented, or, in other words, can this handicap of the infant in the race of life be removed? These are the chief questions that present themselves, and their solution has been aided by studies during my service as house-physician in the Boston Lying-in Hospital,

through the courtesy of the visiting physicians, and by statistics obtained from the records.

In this hospital there are records of the daily weight of each infant from May 1st, 1885. As the birth-weight is taken before the baby is washed and dried, it is evident that a portion of the loss in these, as in probably some other statistics, is accounted for by casix, liquor, mucus, and blood, with which the baby is more or less bedaubed at birth.

To determine this factor, four infants were weighed at birth, and again when washed and dried; in none of these cases was meconium or urine passed before the second weighing. The average loss was an ounce and a half, avoirdupois (47.5 grammes), the least being a little less than an ounce (25 grammes), the greatest about three and a half ounces (100 grammes). Another factor in this decrease of weight is, of course, due to the loss of other extraneous matter present at birth, that is, the meconium and urine; these, in a still-born child, were found to amount to an ounce and a half (45 grammes), but as fully half as much again was lost during delivery, the total amount is probably between two and three ounces. Bouchaud<sup>1</sup> gives the weight of meconium in a still-born child as 60 to 70 grammes. From the so-called physiological loss, then, must be deducted that due to removal of casix, meconium, etc., or three to five ounces, and the remainder will be the true loss of fluids and solids of the body over and above the gain by assimilation of breast-milk.

Leaving out the partly and wholly bottle-fed infants, the premature, and those who died or left the hospital within a few days, and those whose mothers had acute diseases, there were at the Boston Lying-in Hospital, between May 1st, 1885, and July 1st, 1886, 231 infants entirely breast-fed from birth till discharge from the hospital, generally on the fourteenth day; of these, 140 were from primiparous mothers, and 91 from multiparous mothers. It is the custom at the hospital to put the child to the breast generally at the end of from six to twelve hours. The breast is given regularly every two hours, and but once, and in some cases not at all, between 10 p. m., and 6 a. m. The following table is an analysis of these 231 cases:

	Infants of Primiparæ.	Infants of Multiparæ.
Average Loss . . . . .	10.47 oz. (296 gms.)	8.90 oz. (253 gms.)
Day Weight was Less . . . . .	Between 4th and 5th day	4th day.
Per cent. who Reached or Surpassed Birth-Weight on 14th Day . . . . .	66%	63%
Average Gain on 14th Day . . . . .	-0.86 oz.	+0.20 oz.
Average Gain in those who Surpassed Birth-Weight on 14th Day . . . . .	5.74 oz. (163 gms.)	6.86 oz. (172 gms.)
Average Loss on 14th Day in those who Failed to Reach Birth-Weight on that Day . . . . .	7.81 oz. (218 gms.)	7.15 oz. (202 gms.)

Deducting one and a half ounces as the average loss from removal of casix as estimated above, the physiological loss is reduced to 8.97 ounces (247 grammes) in the infants of primiparæ, and 7.40 ounces (205.5 grammes) in those of multiparæ. It is seen by reference to the table that the loss is greater in the former than in the latter class, and that the former began to

gain weight a little later than the latter. The gain on the fourteenth day was, however, practically the same in both, as well as the proportion who equalled or surpassed the birth-weight. The fact that the flow of milk is generally later in primiparæ than in multiparæ, and also the fact that primiparæ are not so skilful in nursing, will explain the difference in the initial losses. That at the end of two weeks, however, this slight difference is done away with is interesting, and corresponds with the general idea that first-born children are, as a rule, as strong and healthy as those coming later.

Bouchaud<sup>2</sup> found that out of 54 cases, five did not lose — three of these being first-born children — and that the average loss in 21 normal infants was 100 grammes for the first two days, after which they gained, reaching the birth-weight on the fifth to the seventh day.

Olier<sup>3</sup> gives a chart of an infant weighing 3,130 grammes at birth, sinking on the second day to 3,000 grammes — "*depression normales*" — which he attributes to loss of meconium, urine, and cutaneous evaporation, and reaching on the third day birth-weight — "*ligne de terre*."

Winckel<sup>4</sup> states the average loss as 284 grammes. Henoch<sup>5</sup> gives 200 grammes as the loss during the first three or four days. According to Hoffman, quoted by Eretzky,<sup>6</sup> the return to birth-weight is on the fifth to the sixth day; and according to Bouchut, on the seventh day.

Schütz<sup>7</sup> finds that the average loss of 27 males for two days was 188 grammes, and for 36 females 170 grammes, and that children of multiparæ lose less, and more quickly return to birth-weight than do the children of primiparæ.

Russow<sup>8</sup> states the loss to go on for three days, and the original weight regained on the tenth day, and thinks that a loss always occurs. According to Siebold,<sup>9</sup> quoted by the same author, the loss is 140 to 280 grammes; and according to Haake,<sup>10</sup> the loss in the first twenty-four hours is one-twenty-fourth of the original weight.

Gregory<sup>11</sup> found that infants invariably lose; that of 45 breast-fed infants, 88% began to gain on the second or third day, and 12% after the third day, and that the loss in these two days averaged 203 grammes; that boys began to gain sooner than girls, and that a nourishing diet in the mother shortened the period of the loss. The average infant reached its birth-weight on the seventh or eighth day.

This loss is due, first, to the fact that for the first three or four days, milk is not secreted in sufficient quantity, or of proper quality, to nourish the child; and secondly, to the fact that the infant is not urged by nature to obtain more than a small quantity of this food, and, if not disturbed, spends most of the time in sleeping. In fact, it seems to me that this physiological loss must be greater in cases outside of the hospital, where the infant is not so systematically forced to take the breast, and actually shaken to keep it awake long enough to nurse.

<sup>1</sup> Loc. cit.

<sup>2</sup> Recherches sur la loi d'accroissement des Nouveaux-nés, 1868.

<sup>3</sup> Monatschrift f. Geburtak., Vol. XV., p. 337.

<sup>4</sup> Vorlesungen über Kinderkrankheiten.

<sup>5</sup> N. Y. Med. Jour., xxviii., p. 173.

<sup>6</sup> Schmidt's Jahrbuch der Med., Vol. 194, p. 219.

<sup>7</sup> Jahrb. f. Kinderh., 1880-81, N. F., xvi., 1886.

<sup>8</sup> Vide also Siebold. Monatschrift f. Geburtak., xv., p. 339.

<sup>9</sup> Vide also Haake. Monatschrift f. Geburtak., xix., p. 337.

<sup>10</sup> Über die Gerichtsverhältnisse der Neugeborenen.

<sup>11</sup> De la mort par inanition et études Exper. sur la Nutrit. Chez les Nouveaux-nés, Paris, 1861.

The colostrum, which serves a useful purpose at first as a gentle laxative — a fact denied by Bouchaud<sup>12</sup> — becomes detrimental if it continues in the milk beyond the normal time. To determine this fact in relation to the physiological loss, the milk of 20 women was examined under the microscope daily, or every other day for a week or more, and it was found that the colostrum-corpuscles disappeared, as a rule, on the fifth or sixth day. In one case, a multipara, in whose milk no colostrum was found on the third day, the infant's loss was only eight ounces. In another multiparous case, the colostrum was present till the ninth day, and the infant's loss was sixteen ounces. In the milk of a primipara, a good many colostrum-corpuscles could still be found on the thirteenth day; and the baby, who was entirely breast-fed, lost fourteen ounces. The mother appeared healthy, and had a good supply of breast-milk.

The average physiological loss in five children of multiparae, where the colostrum-corpuscles were absent from the milk by the fifth or sixth days, was ten ounces. These cases are, of course, too few to be of much value, but are, at least, interesting and suggestive.

J. Lewis Smith<sup>13</sup> speaks of an infant six weeks old, who, after the first week, had never thriven, had vomited frequently, and was much emaciated. The mother's milk, which was apparently suitable in quality and quantity, showed, under the microscope, colostrum-corpuscles. A change to a wet-nurse was followed by rapid recovery.

That this initial loss always occurs with the rarest exceptions, notwithstanding the health and vigor of both mother and child, shows that it is physiological at least in the present state of civilization. Whether it occurs among savages I do not know, but the observations of Kehrer<sup>14</sup> on the lower animals are extremely interesting. He weighed once or twice daily, from birth, some 10 puppies, 28 kittens, and 17 rabbits. All of these gained from the first with two exceptions, one, a litter of four puppies whose mother was poorly nourished owing to partial starvation before delivery, and secondly a litter of six rabbits, whose mother took but little interest in them. How often do these two causes operate in the human species? In these cases there occurred a slight initial loss which was certainly not physiological. Kehrer thinks that the loss in the human young is due first to the tardy secretion of milk in their mothers, and this in turn is dependent on the slight amount of nourishment the mothers receive before and during the lying-in period. The lower animals feed as usual before labor, and immediately after it develop a lively appetite, and the milk flow is plentiful from the first. A second cause lies, he thinks, in the condition of the new-born itself, helpless, unable to move from place to place and often unable to nurse properly for three or four days, while the lower animals immediately after birth, often even when attached to the navel string suck vigorously. He, therefore, urges that the infant should be placed to the breast as soon as possible, and that an early and copious secretion of milk be obtained by a nourishing diet for the mother previous to and during the lying-in state.

Is it worth while to try to improve on nature, and, by a partial artificial feeding during the first few days

of life, prevent if possible this loss? This is what is attempted by the sugar teats, the milk and water and the pap with which the infants of the ignorant classes are often stuffed, and generally with disastrous results.

To answer this question the effect on the initial loss was observed when the infant was given additional food, which was done only in children of primiparae. In thirteen infants half an ounce of milk and an ounce of water were given four times daily for the first five or six days in addition to the regular nursing. In ten cases half a drachm of cane sugar in an ounce of water was given in a similar way. In fifteen cases half a drachm of a granulated extract of malt in an ounce of water was given; and in five other cases the infant for the first three to five days was put to nurse at the breast of a woman whose milk-flow was already established, alternately with the breast of its mother, the nursings coming every two hours. The following table shows the results obtained:

	Breast and milk.	Breast and sugar and malt.	Breast and malt.	Mother's breast and another's.	Average 43 cases.
Average Loss.	9.38 oz. (265 grms.)	16.79 oz. (507 grms.)	8.80 oz. (250 grms.)	7.40 oz. (209 grms.)	9.25 oz. (262 grms.)
Day Weight was Least.	5th day.	4 to 5	3d to 4th.	3d to 4th.	4th day.
Per cent. who reached or surpassed birth-weight on 14th day.	83	80	64	80	77 %
Average gain on 14th day.	1.45 oz.	2.66 oz.	0.92 oz.	1.20 oz.	1.51 oz. (42 grms.)

On comparison with the previous table of entirely breast-fed infants, it is seen that there is a slight reduction in the initial loss, most marked in infants fed also from another breast, and a slight increase in the gain over the birth-weight on the fourteenth day, greatest in those fed additionally with sugar, where, curiously enough, the loss is also greatest. The infants also began to gain sooner, and a greater proportion reached or surpassed the birth-weight on the fourteenth day.

The practical objections, however, to this artificial feeding more than counterbalance, it seems to me, the slight benefits to be derived, and unless the greatest care is used, such as can be obtained from trained nurses in a hospital, the results would probably be unfavorable — such results as are seen in the lower class already referred to. The objections, — besides the great one of its being unnatural, — are that in a considerable proportion of cases the presence of artificial food causes vomiting, and in a smaller number diarrhoea, thus at the very start of life interfering with that most important function of digestion and assimilation. Another objection is that infants take the additional food either with great difficulty, or more often so readily that the breast is afterwards refused. In fact after once giving them a taste of artificial food obtained so easily from a nursing bottle, it often requires the greatest patience and persistence to induce them to nurse their mothers. Many mothers under these circumstances would prefer to put them entirely on the bottle and let their milk dry up rather than continue the struggle, or, what is more probable, the milk would dry up notwithstanding their efforts, owing

<sup>12</sup> Loc. cit.

<sup>13</sup> "Diseases of Children," 5th Ed., p. 36.

<sup>14</sup> F. A. Kehrer. Archiv. für Gynäk., 1. 194.

to the refusal on the part of the infant to take the breast.

The objection to feeding from another's breast in addition to the mother's would simply be its impracticability. The fact that it is impossible to prevent the loss even by this method of a plentiful supply of milk, owing to the difficulty in making the baby nurse sufficiently, shows apparently the normal character of this loss.

Bouchard<sup>15</sup> says that infants placed at once on the breast of another in whom the milk-flow is established lose but little or no weight. Schutz<sup>16</sup> and Krüger quoted by Russow,<sup>17</sup> find that infants under these conditions begin to gain quicker.

Another practical point in relation to the initial loss is the matter of early or late ligation of the umbilical cord. According to Zweifel<sup>18</sup> late ligation of the cord by allowing more blood to enter the infant's circulation than in early ligation, renders the infant more vigorous and diminishes the physiological loss. By weighing the blood remaining in the placenta, he estimates that the child receives 190 grammes more blood if the cord is not cut till the placenta is expelled by Credé's method. In eleven infants thus treated he found the average physiological loss to be 156.7 grammes, while in twenty-five where the cord was cut at once, the average loss was 211. grammes.

Meyer<sup>19</sup> thinks that these results are impossible as 100 grammes is equal to one-third of the whole quantity of blood in an average infant weighing 3,300 grammes at birth, and finds that the average gain by waiting till the expulsion of the placenta is only sixteen grammes. Budin<sup>20</sup> and Schücking<sup>21</sup> found a gain of two or three ounces by waiting till the cessation of the placental circulation before tying the cord. I found that the average loss in ten infants,—including two infants of multipare and five additionally-fed infants, whose cords were cut at once on account of asphyxia, so that hot and cold water plunges, etc., might be used, was 13.2 ounces. In five cases not asphyxiated, three infants of primipare and two of multipare, where the cords were cut at once the average loss was 10.8 ounces. In all the other cases it was the custom at the hospital to wait till the cord had ceased or nearly ceased pulsating, before it was tied, but in the cases tabulated always before the expulsion of the placenta. By comparison with the first table it will be seen that in these cases early ligation has little or no effect on the initial loss of weight as compared with late ligation, except in those cases where asphyxia was a factor: here the loss is somewhat larger.

By way of summary it may be said:

*First.* That in the human infant a loss of weight occurs as a rule during the first few days of life, and is therefore physiological in the present state of civilization, although it does not occur in the lower animals.

*Second.* That this loss is somewhat greater in infants of primiparous than of multiparous mothers.

*Third.* That it is due first to the tardy secretion of milk, and in some cases is increased by the abnormally long continuance of colostrum in the milk,

and secondly to the feeble condition of the infant at birth.

*Fourth.* That the use of additional artificial food or another woman's milk diminishes but does not do away with this loss, and that the practice is for many reasons objectionable.

## Hospital Practice.

### BOSTON CITY HOSPITAL.

#### A CASE OF RECURRING INTESTINAL OBSTRUCTION; RIGHT LUMBAR COLOTOMY; RECOVERY.

SERVICE OF E. H. BRADFORD, M.D.  
REPORTED BY OLIVER H. HOWE, M.D., formerly House-Surgeon.

KATE MCD, thirty-five years of age, single, and a domestic, entered the Hospital (service of Dr. Gay), March 12th. She said that about five weeks previous she had no movement of the bowels for a week, and had more or less vomiting during that time. This attack was followed, a few days later, by a similar one of the same duration. Following this she felt perfectly well, her bowels moving at least every second day (but generally after medicine), the dejections being small in amount.

Eight days ago she had a scanty movement, since which time she has had no movement, although she has taken large doses of various cathartics. She left off work a week ago, and for the last four days has had frequent vomiting, with constant pain and rolling of her bowels. Says she has been unable to sleep, and has lost considerable flesh.

Said she had always had good health, and that previous to the attack first mentioned her bowels had always been regular. Her father died of cancer of the stomach; otherwise her family history is negative.

Patient is somewhat thin and spare, but does not seem to be much emaciated. Countenance has a rather anxious expression; tongue shows a light, whitish coat. Abdomen is moderately and uniformly distended; tympanitic throughout. Pain mostly at left of umbilicus. Some tenderness in epigastrium and left iliac fossa; gurgling in the latter locality. No tumor to be felt. No hernia nor history of any. Rectum empty, and shows no stricture. Temperature 99.6°, pulse 72.

She was given milk and lime-water to drink, and laudanum fomentations were applied to the abdomen. The next day the distension was slightly less, and she was given calomel, gr.  $\frac{1}{4}$ , and bismuth, grs. v, every four hours; also nutritive enemata.

The following day (two days after entrance) she had a small dejection. The next day two good dejections, followed by much diminution of the abdominal distension and relief of all her symptoms. After remaining a week longer, and having daily movements with the aid of occasional laxatives, she went home.

Six days later she returned to the Hospital, having had no movement during that time. The attack was precisely similar to the one preceding, and was relieved in the Hospital by the same means in the same time. The matters vomited consisted, as before, entirely of food, and were stercoraceous. Patient remained in Hospital two weeks, during part of which time cathartics had to be used.

Ten days later she reentered the Hospital (this time

<sup>15</sup> Loc. cit.

<sup>16</sup> Loc. cit.

<sup>17</sup> Loc. cit.

<sup>18</sup> Centraltbl. f. Gynæk., No. 1, 1878.

<sup>19</sup> Centraltbl. f. Gynæk., No. 10, 1872.

<sup>20</sup> Publie du Progrès Medical, 1876.

<sup>21</sup> Berlin Klin. Woch. 1 and 2, 1877.

on the medical side, in the service of Dr. Mason) having had no movement for eleven days. Symptoms the same as before, but more intense. She was given various cathartics and high enemata. The latter brought away only a few granules of fecal matter. A rectal tube was passed up a distance of eighteen inches, without meeting any obstruction or bringing away anything. After having been in the Hospital two weeks, and having had no movement for twenty-five days, the patient was transferred to the surgical side (service of Dr. Bradford), to receive more radical treatment, if necessary. At this time the abdomen was tightly distended and tympanitic, no tumor being felt at any point, even on deep pressure. Four days later a scanty movement of the bowels occurred. The pain and distress of the patient being constantly greater, the emaciation being more marked, and cathartics having been used in good variety and combination, with the exception of one scanty movement, the obstruction now having lasted thirty days, operative measures were determined upon.

Dr. Bradford decided to do right lumbar colotomy. He was led to this decision by the belief that laparotomy would be fatal in the present condition of the patient, especially as the bowels were so distended. An objection to the operation of colotomy was that, the seat of the obstruction being unknown, it might be above the part of the colon selected, so that the operation might fail to give relief. Had this event been encountered, it was Dr. Bradford's purpose, on perceiving that the colon was not distended, to go to one side of the latter, and, entering the peritoneal cavity, to pull out and open the first distended bowel that could be found.

The patient being etherized, an incision five inches long, and parallel to the crest of the ilium, was made in the right lumbar region. This was carried down through the muscles, until the distended ascending colon was found. The latter was sewed to the edges of the wound, and then carefully opened. Gas and feces freely escaped, and the distension of the abdomen was soon much diminished.

The ends of the wound were sewed up, and a large oakum dressing applied. The next day the abdominal distension was wholly gone, and the symptoms entirely relieved. No tumor could be felt in the abdomen, even on deep pressure. General condition of patient rapidly improved. The liquid fecal discharge was profuse for a day or two, but later became somewhat periodical. The dressing was reduced to a small pad over the opening, which patient cared for herself. She was in no way offensive to those about her, except occasionally from wind. She left the Hospital two months later, the extremity of the incision having entirely healed, leaving a round opening, which just admitted the finger. Reported a month later, and was in the same condition, with no further trouble.

Patient reported again four months later (seven months after the operation). She was found to have improved greatly in strength and general appearance, and to have gained in weight. The opening made by the operation had contracted in size, so as to barely admit the little finger, which it tightly grasps with a somewhat sphincter-like action. Prolapse of half an inch of the bowel through the opening occurs at times. She wears over the opening three or four thicknesses of cotton cloth, kept on by a swathe.

The cloths require changing from one to five times

a day. She lives largely upon milk and white bread, in order to keep the feces from being too liquid. The feces have never been "formed." She says the odor and flatus are somewhat troublesome, and that she cannot go to church or to other gatherings of people. She has been employed as a domestic, and thinks she has not been especially offensive to others while at work in that capacity. Three weeks ago she had a small movement *per rectum*. Palpitation of the abdomen shows the presence of no tumor or abnormal condition. No further light is gained about the source of the obstruction, and it must remain for the present a mystery.

## Reports of Societies.

### BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

JANUARY 24, 1887. The President, Dr. F. W. DRAPER, in the chair.

#### REMOVAL OF UTERUS, OVARIES, AND FALLOPIAN TUBES FOR FIBROID.

DR. JOHN HOMANS showed a uterine fibro-myoma which with its ovaries and Fallopian tubes, had been removed by laparotomy two days before, the whole mass weighing twenty pounds. The patient was a single woman, of forty-five, whose life had been made a burden by this growth. So far the pulse has not been above 80, nor the temperature above 99.4°. The stump was treated externally, that having proved the better way in the personal experience of Dr. Homans. It is an operation accompanied by some shock, and is not, in his opinion, an operation to be undertaken lightly, and this is seen from the fact that he has operated five or six times in the last year, having seen perhaps, from two to four cases almost every week. The speaker referred to the cases reported to be cured by Apotoli by means of electrolysis, which acts, as he is informed by Dr. Amory, by causing exosmosis.

DR. J. C. REYNOLDS said that he had seen electrolysis used by Dr. Cutter and that he had received an account of the practical disappearance of the tumor.

DR. J. C. WARREN read a paper entitled,

#### PERSONAL EXPERIENCE IN THE TREATMENT OF CANCER.<sup>1</sup>

DR. D. W. CHEEVER said that he had been asked to open the discussion on this subject, and in doing so wished to express the pleasure and interest with which he had listened to Dr. Warren's paper. The conclusions arrived at therein did not differ, as he recalled them, from those given in the writings of the late Dr. J. Mason Warren. He would like to add some cases from his own experience.

Cancer was said to be more frequent now in this section than formerly, and he was inclined to think this was true.

The natural history or duration of cancer varied with the age of the patient—in youth being much more rapid than in old age. It varied also greatly according to the organ or locality involved. Its rapidity of growth and the duration of life were approximately in the following order: Tongue and

<sup>1</sup> See page 154 of this number of the Journal.

throat, four months to one year; antrum, one year to eighteen months; testis and penis, about the same; rectum, two years to two and one-half years; uterus, a little longer; breast, two and one-half to four years; skin, indefinite, often many years.

The natural duration of cancer of the breast, untreated, varied in the estimate of modern authors as follows: the elder Doctor Gross, two and a half years; Bryant, two to three years; Agnew, about the same; Paget, four years.

Dr. Cheever was inclined to accept the longer estimate as more nearly correct, except in cancer coming on during lactation, where he had seen two cases terminate in less than one year. He would mention a case of untreated cancer of the breast, which died in the City Hospital, lasting quite four years, and entering the hospital after three years and eight months, in a stage of advanced ulceration.

As to the average period of exemption after excision of the breast, Gross puts it at one year; Erichsen, at one year and a half. Dr. Cheever mentioned two cases of his own: in one there was an exemption of four years; and in one, an exemption of five years. Much longer periods were on record.

In favor of an operation it was proper to say that the mortality from excision of the breast was extremely low; not over six per cent; that anesthesia had robbed the operation of its terrors, and that anti-septic treatment had reduced suffering and hastened convalescence.

Relief and prolongation of life were sometimes the result of operation under the most desperate circumstances. Last June he was called in consultation to see Mrs. G., who had concealed a cancer of the breast from her family until it had burst and ulcerated, and was thoroughly septic and decomposed. Her temperature was high; constitutional irritation great, and every circumstance unfavorable. She assented to a complete and rapid excision, as giving a small chance of life. The tumor was enormous and the wound left by incision very large. She made a prompt and speedy recovery, and called at his office at Christmas, active and well.

On the other hand, it was sometimes impossible to estimate the depth of the cancerous cachexia by the external appearance of the patient. Mrs. T. was operated on in October last. She appeared vigorous—the breast had not ulcerated—the scirrhus was somewhat adherent to the pectoralis muscle, but no indurated glands could be felt. The operation was easy. Some glands were found affected in the axilla, and this cavity was dissected out. For a week she did well, then she had pleuritic effusion under the wound. The fluid was aspirated twice without relief, it was sanious. She sank with pleuro-pneumonia and died in forty-eight hours. The cause of death was then supposed to be septic absorption, but an autopsy revealed cancer of the pleura and of the liver.

Excision of cancer of the breast relieves disgusting effluvia, and thus adds to the comfort of the patient. It was a mistake to suppose that it relieved suffering, after recurrence. Death was as painful and suffering as prolonged after recurrence, as in cases left to run their natural course.

Miss R. gained her livelihood by type-writing. She came to Doctor Cheever with a small, deep, adherent carcinoma of the breast. It was painless and did not interfere with the free use of her arm and hand. He

advised against operation, because she was dependent on her hands, and he feared that the disease was irradicable and that the scar of an operation in a thin subject, and with the pectoral involved, would prevent subsequent free use of the arm. Four months later it ulcerated a little and alarmed her by trivial hemorrhages. She desired operation. Excision of the breast was done, convalescence was slow, adhesion took place. The arm was nearly useless. Cancerous asthma supervened, and she lingered eight months in great misery, and died sitting up in the distressed and bowed attitude of the sufferer from advanced cardiac disease. She did not leave her chair or lie down for eight weeks before death.

Was any other mode of removal better than the knife? Caustics were no safeguard against recurrence.

Some years since a woman entered his hospital service in the following condition:

The mamma was gone; the pectoralis major and minor muscles; the serratus; the intercostals and two ribs; a third rib necrosed, detached at its external end, and flapping like a loose hoop; the costal pleura was exposed over a large surface, and granulating. This extraordinary destruction had been accomplished by a paste applied to a cancer of the breast by a female charlatan.

The woman remained in the hospital all winter. Aided by grafting, cicatrization was nearly completed, but before she left the hospital, hard and tuberos masses of cancer appeared in the neck and arm.

In epithelioma of the skin of the face and neck in the aged, Dr. Cheever used caustics with much benefit. He had preferred the chloride of zinc (Canquary's paste), which was nearly painless. He thought the use of Paquelin's cautery would prove extremely valuable, as in Dr. Warren's cases. He had recently noticed the remarkable arrest of growth in ulcerating epithelioma produced by an intercurrent attack of facial erysipelas. The elder Dr. J. Collins Warren had mentioned this phenomenon.

The arguments in favor of operating on cancer of the breast were:

- (1) The moral effect on the patient, which was very great.
- (2) Cleanliness.
- (3) A period of exemption, and a probable prolongation of life.

Dr. Cheever had been quite positively convinced of the beneficial effects of some other local remedies, such as submucous injection of a saturated solution of citric acid in the cylindrical epithelioma of the rectum. Glacial acetic acid made a slough. Citric acid tanned and shrunk the parts. Some growths of doubtful character in the breast had disappeared, under his observation, under large doses of bromide of potash, given by the mouth. And some in the parotid gland under the use of the bichloride of mercury taken by the mouth, in minute doses for many months. Chian turpentine, he thought, relieved the pain of rectal cancer sometimes, but not always. Cocaine injected subcutaneously, had produced cardiac distress and faintness in two cases.

Dr. Cheever wished, in closing, to say a word in favor of the repeated removals of sarcoma, which was a locally recurrent disease. Life can be much lengthened by operating over and over again, where the growth is accessible. The late Dr. March, of

Albany, operated on a sarcoma of the neck in an elderly lady. It recurred, and Dr. Cheever removed it five times. These six operations covered ten years. The first was done at the age of sixty-eight, and the last at the age of seventy-eight years. The patient finally died of pneumonia, one year after the sixth operation.

DR. J. C. WHITE said that his experience with carcinoma had been mainly with its superficial manifestations. He sees many cases of epithelioma in an early stage; and merely wishes to call attention to the importance of recognizing the disease while it is comparatively simple and harmless. In *hepatosis senilis* the early changes consist in a heaping up of cells of the upper layer, subsequently the lower cells became heaped up and undergo changes. By the early use of soaps, salicylic acid, cosmoline or vaseline cases can often be restored to their normal condition, that is, cured. Scaly masses, with change of color, upon the back of the hand, the face or the neck, can often be cured without the use of curette or knife. When sebaceous warts tend to be soft, scales form in masses, soften and fall, leaving a scab. Such warts may be treated with a pointed stick dipped in concentrated nitric acid. The stick can be pushed into all the recesses of the skin and the acid penetrates farther than the stick. Unless free bleeding occurs to dilute the acid, there will be probably a superficial scar. If driven deeper, there may be marked destruction of the skin. He never tried this method in cases fit for excision, but in the beginning, nine out of ten cases of epithelioma may be cured by it.

A mistaken diagnosis is often made because of age. True epithelioma may be found between twenty and thirty, or even fifteen and twenty, or even at twelve years.

DR. JOHN HOMANS expressed his opinion that it is wise in removing sarcoma or cancer, to start with the resolution to remove it as often as it returns, for as long a time as possible. In one case a sarcoma had returned before the patient had recovered from his first operations. He removed it again, and there has been no other return for nineteen years. He mentioned a case of a cancerous tight annular stricture of the rectum, in which the bowels had not acted for six weeks. The patient was too tender to be removed. He performed colotomy and afterwards the patient was able to be about shopping. Finally, a rubber tube dropped into the wound. He was not allowed to remove it, and death resulted.

Dr. Homans also spoke of the value of statistics. We do not know as much as we should of the after history of hospital cases. When younger, and with more time at his disposal, he had offered to follow up these cases of one of our hospitals by correspondence with physicians and patients, but was not encouraged to do so. He thought however it would be valuable work, and not merely so with cancer. There was room for it in the study of tracheotomy, for instance.

DR. M. H. RICHARDSON said that he thought the method of inquiry proposed by Dr. Homans would be valuable; but to be so, it should be limited to cases in which the diagnosis is certain, in which the microscope has been used.

He said that he has yet to see the case of cancer of the breast, in which the axillary glands cannot be detected. Of course, if they are thoroughly dissected away, there can be no return in these glands.

## MEDICAL SOCIETY OF THE STATE OF NEW YORK.<sup>1</sup>

EIGHTY-FIRST ANNUAL MEETING, HELD AT ALBANY, FEB. 1ST, 2D, AND 3D, 1887.

### SECOND DAY — AFTERNOON SESSION.

A resolution was passed, making the term of delegates to the Society three instead of four years, and enabling them to become permanent members after two successive years' attendance on the Society, instead of three. The object of the resolution was to increase the membership. The question of receiving delegates from certain other organizations will be voted upon next year.

DR. E. T. BRUSH, of Mt. Vernon, read a paper on the

#### MAMMARY GLAND.

After a humorous introduction in which he quoted instances of the secretion of milk in the mammary glands of the unimpregnated females as well as in the male, and deplored the fact that the product of the human female mammary gland was threatened with competition not only by the baby-fool war, but also by the male wet-nurses of the future, Dr. Brush gave his own experience with cases of mammary abscesses. He pointed out that, as there is an excessive activity in the gland during the puerperal state, disturbances in other parts of the economy produce pathological changes in it; that a malarial chill, rheumatic seizure or the like, is often at the bottom of the trouble, and that by treating these constitutional symptoms the local manifestation could be aborted, and that this, indeed, was the rationale of the exhibition of quinine or salicylic acid in cases of abscess. For sore nipples he proposed a new acid, according to his statement, an affectual method of preventing or remedying this troublesome annoyance; for painful abscesses he recommended ice-bags, and, if necessary, strapping and bandaging; and in galactorrhoea, ergot, quinine, and iodide of potassium. For emptying the breast he preferred hot bottles as more efficient and gentler than breast-pumps, many of which he described as simply barbarous. He alluded to the fact that in the human female, pus never exudes from the nipple, while in the bovine female it always exudes from the breast.

#### REPORT OF THE COMMITTEE ON PRIZE ESSAYS.

The Merritt H. Cash prize was awarded to Dr. A. N. Bell, of Brooklyn. The title of his essay was, "The Physiological Conditions and Sanitary Requirements of School-life and School-houses." Eight essays had been received. Later it was voted to authorize the secretary to send one thousand or fifteen hundred copies of this essay to the municipal and school authorities throughout the State.

OBSERVATIONS ON REFLEX NERVOUS DISTURBANCES, was the title of a paper by Dr. W. E. FORD, in which he held that many of the conditions commonly ascribed to reflex causes were due to actual lesion of the spinal cord. Operative procedure for the relief of reflex disorder often failed of its object.

DR. ROSWELL PARK read a paper on

#### THE SURGERY OF THE LUNGS,

Treating of the subject under the following heads:

<sup>1</sup> Concluded from page 159.

(1) Historical; (2) Pneumotomy, — indications for, — operations — results; (3) Pneumectomy — experimental and clinical — indications for — the operation described; (4) Thoracoplasty — Estlander's operation and its modifications — general principles upon which it is based — reports of cases.

Pneumotomy was indicated in bronchial abscess, tubercular abscess, gangrene of the lungs, hydatid cysts, and foreign bodies. The mortality-rate had been a little over thirty-two per cent. The clinical reports from pneumectomy were of a limited number. It was resorted to in hemorrhage from the lung, wounds of the lung, hernia of the lung, neoplasms, and tubercular disease of one lobe. The future of this operation for tubercular disease at the apex was uncertain, but he hoped it would prove useful. The chief indication for thoracoplasty was empyema. — The paper was discussed by Dr. Weir.

#### THE RELATION OF LARYNGEAL TO PULMONARY PHTHISIS, AND THE IMPORTANCE OF LOCAL TREATMENT.

DR. C. C. RICE, of New York, read the paper, and said that about one-fourth of all deaths reported were from pulmonary phthisis; in about one-third of this number there was laryngeal phthisis. Yet it was evident that much fewer than this number received suitable local treatment. He asked, is laryngeal phthisis always tubercular? Is the deposit of tubercle always the primary lesion, or is it deposited often secondarily to catarrhal laryngitis of simple character, aggravated by the bad condition of the patient, and going on to the stage of ulceration? When tubercle becomes deposited, does it render the condition entirely different from the ordinary catarrhal process?

That tubercular laryngitis is not an inappropriate name, has been shown. While tubercular infiltration is known to be frequent among cases of laryngeal phthisis, yet its presence does not imply a disease which runs a typical course, or one in which the prognosis is always bad. Many of the cases of laryngeal disease, apparently laryngeal phthisis, connected with pulmonary phthisis, showed microscopically only the signs of simple catarrhal laryngitis. In some cases the diagnosis of laryngeal phthisis of tubercular character was evident, when there were no indications of phthisis in the lungs.

The function of the larynx was often a cause of its inflammation; from this he suggested that in the treatment there be complete rest of the larynx so far as use of the voice was concerned. Inasmuch as laryngeal phthisis, in his opinion, is not always laryngeal tuberculosis, he regarded the name tubercular laryngitis as unfortunate. The author then spoke of the importance of local treatment, particularly before the stage of ulceration, and also for the relief of symptoms after the stage of ulceration.

DR. FRANCKE H. BOSWORTH, of New York, referred to the fact that Mackenzie had been quoted, in contradiction to his former assertions, to the effect that laryngeal phthisis is not always laryngeal tuberculosis. Absence of the bacillus tuberculosis had been shown in the early stage of some cases of laryngeal phthisis; and the importance of this point could not be overestimated, as it was a generally accepted fact that tubercular laryngitis was usually fatal.

DR. O. B. DOUGLASS had in dispensary practice obtained some almost miraculous results in laryngeal

phthisis from the use of terpin, in about six-drop doses three times a day.

DR. A. WALTER SUITER read a paper on  
SOME POINTS OF MEDICO-LEGAL INTEREST IN THE  
SCIENTIFIC INVESTIGATION OF THE CASE OF THE  
PEOPLE *versus* ROXALANA DRUSE.

#### INTUBATION OF THE LARYNX.

DR. E. L. PARTRIDGE, of New York, read a paper in which he continued the discussion on Dr. O'Dwyer's method of intubation of the larynx, referring in detail to the possible difficulties arising in its performance, etc. The paper was also an argument in favor of the employment of the method which did not preclude the use of tracheotomy, should intubation fail.

DR. A. JACOBI said that when Bouche, of Paris, proposed intubation of the larynx, many years ago, he, Dr. Jacobi, lifted his voice on this side of the water, as did Trousseau and others in Europe, against the suggestion as being practically absurd. When about two years ago he heard of O'Dwyer's method, he also expressed publicly his opinion that it would fail. He had now, however, become convinced of the utility of O'Dwyer's system of intubation of the larynx, and he did not doubt but what the inventor's name would go down to posterity.

#### SOME CONSIDERATIONS CONCERNING CANCER OF THE UTERUS, ESPECIALLY CONCERNING PALLIATIVE TREATMENT IN THE LATTER STAGES.

DR. A. F. CURRIER, of New York, in a paper with this title reviewed the views held by eminent pathologists regarding the anatomy of cancer, also regarding radical operations for cancer of the uterus, and then spoke of the treatment commonly adopted in the cancer hospital at New York, which consisted in removing, by cutting instruments, such portion of diseased tissue at the neck as it was practical to remove in that manner, then the employment of the cautery, the application of a caustic of chloride of zinc, the removal of the slough, the dietary and hygiene of the patient. Life might thus be prolonged, and particularly rendered as comfortable as possible.

#### THE DUTY OF THE MEDICAL PROFESSION IN PROMOTING CREMATION.

SIR T. SPENCER WELLS, honorary member, sent the paper, which was read by Dr. A. Jacobi, who followed with some remarks. The author of the paper referred to the teachings and example of the distinguished Gross, and thought American physicians should not allow the lesson to go unheeded. He also sent two addresses on the subject of cremation, which he had read at meetings in England. Dr. Jacobi, in some written remarks, presented what had been said on the other side of the subject by different writers. As offsets to the assertion by those who insisted upon the necessity of cremation for sanitary purposes, it had been questioned as to what extent contamination of waters, etc., had taken place from burial grounds, and to what extent disease had been spread during burial ceremonies. Further, whether such contamination and such spread of disease could not be entirely prevented by change of the burial system. It was also questioned whether cremation would do away with these dangers to the public health. Aside from the question of sanitation, arose the question of

destroying the evidences of possible criminality by cremation.

#### PRACTICAL OBSERVATIONS ON ABDOMINAL SURGERY.

DR. W. GILL WYLIE, of New York, said his paper would consist of the report of 124 laparotomies, the use of hot water, and treatment of septic peritonitis and intestinal obstruction after laparotomy by the use of purgatives, etc. The cases of laparotomy included all that he had operated upon since November, 1882; 47 of the cases were operated upon in 1885, and 55 in 1886. Of the entire number, twelve died. If three deaths from suprapubic hysterectomy were excluded, the death-rate would be about seven per cent. Of 74 cases operated upon for removal of the uterine appendages, nearly 50 per cent. were cases of genuine pyosalpinx. Of the last 37 of the 74 cases only one had died. He employed hot water in the peritoneal cavity during and just after the operation, to prevent shock and to stop oozing of blood. Tympanites and vomiting supposed to be due to septic peritonitis after laparotomy, were best overcome by enemata, and if these failed then by purgatives. The bowels should be kept free, not constipated.

The President's Annual Address, entitled,

#### THE ACHIEVEMENTS IN SCIENCE AND LETTERS OF MEN WHO HAVE BEEN CONNECTED WITH THE MEDICAL PROFESSION,

was read in the assembly rooms of the Capitol.

#### THIRD DAY. — MORNING SESSION.

##### SPREAD OF CONTAGIOUS OPHTHALMIA.

DR. LUCIEN HOWE, of Buffalo, offered the following resolution, which was adopted:

*Whereas*, the census reports and other reliable statistics show an alarming increase of blindness in the United States, entirely out of proportion to the increase of population; and, whereas, examination indicates that the cause of this is contagious ophthalmia, therefore, be it resolved that a committee of three be appointed to investigate this class of diseases, and recommend means for its remedy. The President of the United States and Officers of the State Medical Society were called upon to render assistance in this work.

##### SYPHILIS OCCURRING IN CONNECTION WITH OTHER DISEASES OF THE SKIN.

DR. L. D. BULKLEY, of New York, thought it probable that syphilitic eruptions had occurred in connection with nearly every other skin disease, but he had seen it in connection with the following among others, and had found the diagnosis more or less difficult: acne, alopecia areata, cloasma, copaiha eruption, eczema, particularly pustular eczema of the scalp and mouth, iodine eruption, leprosy, lupus erythematosus, measles, psoriasis, urticaria, zoster, chancroid, gonorrhea, etc. The presence of the lesions of syphilis in connection with other skin diseases often made the diagnosis obscure, hence the necessity for the greatest care. Differential points were made.

The Committee on nominations reported: For President, A. L. Loomis; Vice-President, A. M. Phelps; Secretary, W. M. Smith; Treasurer, C. H. Porter.

DR. STOVER, of Amsterdam, described a modification of Chadwick's Gynecological Table.

A number of papers were read by title.

The Society adjourned at 10.50, A.M.

THE BOSTON

## Medical and Surgical Journal.

THURSDAY, FEBRUARY 17, 1887.

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#### RIGHT-HANDEDNESS.

SINCE the time of Aristotle, and we are not aware how much longer, the cause of the superiority of the right side has been a repeatedly recurring subject for discussion. If all that has been written on the subject could be collected, the huge mass would be interesting in ways quite unconnected with the question in hand. It would show, as in a long panorama, the progress and vagaries of medical science, and of the methods of thought of the times.

The rise and fall of systems, the coming of new and more accurate knowledge, would all leave their mark. We should be able to recognize, in different ages, the chief types of minds: the rash, the plausible, the cautious, the mystical; the one so dominated by one idea that it can see no other side; and its opposite, to whom the truth and error of various views appear to counter-balance one another so accurately, that a decision is impossible. We should find, no doubt, during the reign of each prominent system, a line of inventors of the self-same theory, each unconscious both of his predecessor's light, and of the critic who snuffed it out, and unsuspecting that another is at hand to do as much for himself.

The paper that has thrown us into such a moralizing mood is a very interesting one on "Man's Aptitude for Labor in the Erect Position, with an Inquiry into Right-handedness," which Dr. Oscar H. Allis, of Philadelphia, read before the College of Physicians of that city a few months ago, the advanced sheets of which have lately reached us. The central idea of the essay is that man's easiest mode of supporting the centre of gravity during labor is by rotary motion. It may be that this action is not universal, but we agree with the author in so far as to admit that it is very general. He then argues that the mechanism of the skeleton shows special provisions for this kind of strain. We shall not follow him through his argument in support of this proposition, which cannot be well given in few words, but will admit that, though parts might be criticised, it amounts to a demonstra-

tion, and then pass on to the deductions concerning "the agencies that predispose to the very universal preference for the right leg and arm."

Dr. Allis holds that the cause is a mechanical one, and one that comes into play when the child begins to walk. This cause is the weight of the liver, which, from its asymmetrical position, brings the centre of gravity to the right of the median plane of the body, and, as he expresses it, "anchors the right side, gives it stability, and predisposes erect man to a preference for the right hand." Because the right leg is more firm, the arm of the same side is better supported. Moreover, according to our author, "rotary motion in the erect position requires that one hand should be principal, and the other assistant."

"In demonstrating the position of the liver, I have been in the habit of remarking that the great weight of that viscus on the right side does not appear to be balanced by the viscera on the left side. . . . The fact would be sufficiently interesting in relation to animal symmetry and equipoise, to visceral development, and to the mechanism of the erect posture; but it has lately assumed a new importance, from the theory that a greater weight on one side of the body will determine the greater strength and use of the limbs of that side, and thus furnish a physical explanation of the use of the right hand in preference to the left." No! these remarks were not written with reference to Dr. Allis's paper, as the reader probably supposes. They are from the pen of Prof. (then Dr.) John Struthers, and are to be found in the *Edinburgh Medical Journal* of 1863. They refer to the paper of Prof. Andrew Buchanan in the fifth volume of the "Proceedings of the Philosophical Society of Glasgow," who takes, as they show, essentially the same ground as Dr. Allis.

Although not assigning so important a part in the mechanics of the human body to rotary motions, Professor Buchanan repeatedly refers to them, and analyzes at considerable length the movements that concur in throwing a ball. He believes that the body does not turn on a central axis, but on one that is continuous with a line dropped from the centre of gravity, and, consequently, on the right. Dr. Struthers, in his paper, discussed some of Dr. Buchanan's statements on the effect of respiration on the position of the liver, and, by a series of careful calculations, settled a question which remained unanswered the other day at Philadelphia, to wit: that the viscera of the right half of the body are heavier than those of the left.

The reason, according to Professor Buchanan, why women carry babies and bundles on the left arm, is that the extra weight tends to counter-balance the liver, but that heavy burdens are put on the left shoulder for a totally different reason, namely, that the consequent lateral inclination of the body brings the weight over the stronger right leg.

According to this theory, the superiority of the right side depends on a purely mechanical cause, and is not the result of fashion or of education. The right arm is the strongest because it is used the most,

and there is no difficulty in supposing that the left side of the brain becomes more developed in consequence, and further, that these characteristics are inherited.

The most provoking jack-in-a-box which cannot be suppressed, but is jumping up at frequent intervals, is Hyrtl's theory that the right arm gets the stronger current through the innominate artery, and that in left-handed people the right subclavian is given off last. This is quoted, sometimes with the self-evident refutation which its weakness, incompleteness and imaginary origin demands, sometimes as a fact on the authority of the great teacher whose *ipsissima verba* are rarely spared us. It was let off last about a year ago by a writer in the *Medical Record*, who apparently thought that he was imparting information. It is plain that even if this theory had any foundation it would account directly only for the arm. Making due allowance for the physiology of two thousand years ago, Aristotle's theory is of broader application. "The right side is preëminent over the left because it receives, not only a more abundant supply of blood, but blood of a different quality, purer and hotter. The aorta with its branches supplies the left side, while the vena cava, which is larger than the aorta, and lies on its right, supplies the right half of the body.

Now there are three objections to all these theories:

*First*, if right-handedness has a gross mechanical cause, such as the position of the liver or the course of the innominate artery, to account for left-handedness, we must assume that there is a transposition more or less complete of the viscera.

*Second*, there is frequently a difference in acuteness of touch between the sides.

*Third*, there seems to be something analogous to right and left handedness in animals.

The first objection to these theories is almost fatal, unless it can be proved that visceral inversion exists in cases of left-handedness, and conversely that left-handedness occurs with transversion. Now we know very well that there is no visceral inversion in the left-handed people who are examined by scores in medical practice, and also that in many, if not in most cases, the subjects of visceral inversion are right-handed. Dr. Allis, when asked to account for left-handedness, said that the predisposing cause of a preference for one hand or the other is a little thing. The answer, if correct, is a refutation of his own theory.

The second objection is that these theories account at most for the greater size and more ready use of one side, and give no explanation of other important phenomena. Weber asserted long ago that tactile sensibility is greater on the right, but that the power to distinguish between different degrees of temperature and of pressure is greater on the left.

This line of investigation has been almost entirely ignored. With the exception of the report of a single case, in 1870, of a left-handed person whose greater sensibility to touch and to warmth were inverted, we know of no new observations until comparatively re-

cently in Italy. Most of the observations have been made on the insane and on criminals, and though we do not subscribe to the hobby that each of these is a class *sui generis*, we should not choose either for general statistics. In point of fact the observers have not done so, but have endeavored to draw comparisons between them and the rest of the community, yet so far as we know there have not been a sufficient number of observations on others to establish a rule. Professor Lombroso found that of 67 students (presumably neither insane nor criminals, or who at least had not been found out), twenty were left-handed in sensation, and eighteen right-handed. It would lead us into other questions to discuss the results in the two special classes, but we think it may be assumed that in at least fifty men of a hundred, one side is the better for sensation, and that this by no means necessarily is the same or the better one for motion.

The third objection is that there is a favored side in many animals. The more their habits are studied the more evidence is obtained that most animals that have prehensile extremities use a certain side by preference. Dr. William Ogle found that of twenty-three monkeys twenty were right-handed. A parrot cannot manage a nut with the beak alone; he supports himself on one leg while the other is used as an arm. The same observer found that of eighty-six parrots, sixty-three stood on the right leg and managed the nut with the other. We have satisfied ourselves that parrots almost invariably have a favorite side. With the more common perching birds the point is not so easily settled, still there are those who believe that individual birds sleep resting on one leg rather than on the other. But though there is good reason for believing that in many animals there is a favorite side, there is, as a rule, little regularity even among those of the same species as to which side it is; and when we consider how differently from man's their bodies are supported, what we may call the equilibrium theory seems unsatisfactory.

More than twenty years ago Dr. Moxon suggested that as man has but one attention for two sides it is devoted chiefly to one, which takes the lead in associated movements. Perhaps this theory might be extended to account for differences in perception also. Crude as it is, there is a germ of truth in it. Vertebrates have true lateral symmetry only in the very earliest stages of embryonic existence. Soon vascular asymmetry shows itself, preceding changes in the viscera by which they lose their primitive evenness. In some animals the asymmetry is striking, as in the lungs of serpents, the oviducts of birds, to say nothing of such exceptional forms as the pleuronectide; but even in those parts of animals which remain symmetrical in theory, there is a discrepancy in fact. The bones, for instance, of opposite sides are not equally large. One may be larger on the right and another on the left, so that apart from the hypertrophy consequent on greater use, it is hardly possible that the two sides should be quite alike. Man is symmetrical

in plan, but in actual life he is not. Something quite analogous is to be seen in plants. Take as an instance those climbing plants that grow in graceful spirals. Each family has its regular side and turns either to the right or the left, yet species are occasionally met with that turn in the opposite way, and again certain individual plants persist in describing spirals at variance with those of their species. In a word they are left-handed. Now it is evident that for a plant to grow in spirals it must have something that disturbs the equilibrium and inclines it to one side or the other, hence this asymmetry is no defect; and it has been argued that in the case of man distinct advantages accrue from the want of perfect symmetry both in the organs of locomotion and of sensation. It is probable that the cause lies deeper than in the coarse anatomical arrangements to which it is so often ascribed; a conclusion very possibly reached by some of Aristotle's critics.

#### HISTORY AND CLASSIFICATION OF THE MYELITIS.

ANY one who will take the pains to look into any standard work on practice of the earlier part of this century (Mason Good, or Gregory), will be struck by the paucity of notions respecting spinal affections. He will find entire absence of hosts of terms familiar to the students of medical literature of to-day. Even the word *myelitis* seems to have been unknown to Good, and was first employed by Harless in 1814. Good's whimsical natural history classification of disease, and his arrangement of all his symptoms under uncouth Latin functional denominations, will strike the reader of the present day as somewhat odd.

Abercrombie and Ollivier were the first to describe acute myelitis as an affection independent of meningeal changes, giving naked-eye observations of exceeding accuracy and minuteness. Sir Charles Bell and Magendie had just before discovered the functions of the spinal nerves, and the localization in the columns of the cord of the motor and sensory tracts. Thus far, however, the knowledge of the minute anatomy of the spinal cord was in an inchoate state. Pathology cannot make any advances till the pioneer sciences, physiology and histology, have cleared the way, and in the first part of this century the entire nervous system was a *terra incognita*.

The impulse had been given by a great organizing mind, Bichat, whose life-work, begun in 1797, was finished before the end of 1802. Bichat, by directing the attention of physiologists to the elementary tissues, and to the vital properties of the tissues, gave an incalculable stimulus to histological and physiological investigation. The subsequent contributions in the department of the nervous system alone, of such accomplished workers as Rostan and Andral, Lobstein and Rochoux, Cruveilhier and Renak, Romberg and Tuerck, Duchenne of Boulogne, and Brown-Séquard, Oppolzer and Mannkopf, Leydig, Westphall, Charcot,

Vulpian, Hayem, Frommann, Leyden, Luys, and Lockhart Clarke (to mention only a few of the principal authorities to whom we are indebted), have given tolerable completeness to our knowledge respecting the conditions of diseases of the cerebro-spinal axis.

The inflammations of the spinal marrow are no longer the simple affair that Abercrombie supposed them to be, nearly sixty years ago. The spinal cord has been found to be a somewhat complex structure, containing certain "systems," or apparatuses, besides a frame-work of connective tissue, the neuroglia, and inflammation may affect primarily any one, or all of these constituent parts (in the latter case being *diffuse*), and on this fact the modern classification is mainly based.

The most general conception of the spinal cord is that of an organ composed of connective tissue elements, binding together nervous elements (the grey matter and the white matter). The latter can easily be arranged into "*systems*" having special offices (the central grey matter with its anterior and posterior horns, the antero-lateral and posterior columns). The "systematized" portions are the true "parenchymatous" portions, containing conducting fibres and cells. The first great division of the myelites would therefore naturally be into the parenchymatous and interstitial. The first class might then be defined as "systematic myelites, beginning and propagating themselves by the nervous elements, localizing themselves in a particular system," (Grasset).

Practically, this is a useful division, which includes most of the chronic forms of myelitis, and the most common of the sclerosis. Of sub-divisions we have: (1) Myelitis of the white columns (fasciculated sclerosis), differentiated still further into sclerosis of the posterior columns (to which belong locomotor ataxia and sclerosis of the columns of Goll), and antero-lateral sclerosis, the latter comprising "spastic paraplegia," and lateral amyotrophic sclerosis; (2) Myelitis of the gray substance, that is, of the anterior horns and the bulbar nuclei; under these latter heads are comprehended the interesting affections known as atrophic infantile paralysis, acute spinal paralysis of the adult, and labio-glossolaryngeal paralysis.

Bearing in mind that the above forms may be secondary as well as primary, we come to the second great division of the myelites, the interstitial. According to some pathologists (notably Jaccoud), all the myelites are primarily interstitial, that is, beginning and propagating themselves by the connective-tissue, and secondarily, involving the parenchymatous elements. A true inflammation of the parenchyma of the cord, Jaccoud says, beginning with the nervous elements and remaining for some time limited there, is no more a fact of spinal than of cerebral pathology.

Other pathologists (Erb, Vulpian, Grasset, Dujardin-Beaumez, Spitzka, etc.) take the more probable view that myelites may begin in a primary irritation of the nervous elements. In the present state of our

knowledge, it is impossible to tell, either by the clinical signs or the post-mortem appearances, whether the myelitis in a given case was due to primary irritation of the neuroglia, or of the nervous elements. For convenience we may still adopt the French classification, and regard interstitial myelitis as including all the acute inflammations of the cord except the diseases known as acute atrophic spinal paralysis in the infant and adult.

A peculiarity of these interstitial inflammations is that they are diffuse. They are prone to invade indiscriminately all the regions of the cord, and this fact is in striking contrast with the tendency of the parenchymatous inflammations to remain localized in certain "systems," as portions of the white columns or central gray substance. A peculiarity of the acute inflammations is their tendency to end in one or more foci of softening, while the characteristic of the chronic myelitis is the thickening of the neuroglia and atrophy of the nervous elements which invariably follow. Both the acute and chronic forms may be circumscribed or invaded, and are subdivided accordingly; there are types with ascending or descending march; some forms are so acute as to be speedily followed by death (apoplectic form type), others sub-acute, or chronic with very gradual march of the lesions. The region of the cord affected gives the name to certain varieties, (cervical, dorso-lumbar, etc.) and there is a special form of myelitis which is diffuse after a manner peculiar to itself, a form which is almost unique in pathology, namely multiple, or disseminated sclerosis.

The principal landmarks in the history of the myelites are as follows:

The term myelitis first appeared in the works of Harless (1814), and Kloss, (1820).

Ollivier, in 1821, and Abercrombie, in 1828, gave the first lucid description of this disease, pointing out the connection of softening with the acute forms of myelitis. In 1851 Romberg published his admirable treatise on "*Tabs Dorsalis*," in which the principal symptoms of the disease are enumerated, and the complete differentiation from the true paralytic diseases is effected; this epoch-making book was followed, in 1854, by Wunderlich's more full description. Tuerck, in 1858, announced his important discoveries concerning the primary and secondary degenerations; while Duchenne, of Boulogne, in 1858 and 1859, in memoirs which are classical, again called attention to the complex of symptoms characterizing posterior spinal sclerosis, which he was first to name *progressive locomotor ataxia*, giving a far more complete clinical account of that disease than has before been given. He was followed by Bourdon and Luys in 1861, who added to Duchenne's clinical description the data of pathological anatomy that were wanting.

The clinical history of multiple sclerosis begins with the work of Frerichs in 1849, and the pathological anatomy was cleared up by Rindfleisch (1863), by Leyden (1863), and Zenker (1865). Drawings, how-

ever, which are faithful reproductions of the lesions of insular sclerosis, appear in Cruveilhier's atlas (1835). Charcot and Vulpian have since contributed largely to our knowledge of this affection. For our knowledge of *tabes dorsalis spastica* we are almost entirely indebted to Charcot and Erb.

Jacob Von Heine, in 1840, was the first to call attention to the congeries of clinical characters which distinguish that myelopathy which he named "acute spinal paralysis of infancy." Duchenne, of Boulogne, in 1855, referred this affection to a lesion of the spinal marrow; and Cornil (1863), Prevost and Vulpian (1865), Lockhart Clarke (1868), and Charcot and Jouffroy in 1870, made valuable additions to our knowledge of the malady. The identity of this affection with the atrophic paralysis of adult life was shown by Moritz Meyer in 1869, and has been placed beyond doubt by the subsequent contributions of Charcot, Bernhardt, Kussmaul, Frey, Lincoln of Boston, Leyden, Erb, and Hammond.

Acute ascending paralysis was first described by Landry in 1859, and from that time reports of cases of this disease have been accumulating; we are still, however, in the dark as to the nature of the anatomical lesions in the cord which constitute this rapidly-progressive and fatal affection.

#### ANOTHER DIPLOMA MILL.

The *Boston Herald*, of February 11th, contains an account of the manner in which one of its reporters obtained a degree of M.D., from the "Druidic University of America, State of Maine Branch." The "University" is situated in the city of Lewiston, Me., and occupies a two and a half-story wooden building, which is ornamented with the sign of "Dr. Samuel York, Druidic Physician." The reporter represented himself as a young man who wished to settle in the city of Mexico, and there practice medicine in all its branches. With many assurances that the college did not sell its diplomas, the proprietor exchanged a matriculation ticket and a most elaborate diploma for a small amount of money, which was said to cover cost of printing and other expenses. The aspirant was also put through some very farcical examinations, and given some equally absurd instruction, the whole transaction covering some six hours' time within three different days.

An act incorporating the Maine Electric Medical Infirmary was passed by the Maine Legislature of 1871, and in 1880 was incorporated the "Penobscot Valley Gorsedh of Bards and State of Maine Branch of the Druidic University of North America, for the purpose of promoting literature, science, art, medicine, philosophy, and other branches of knowledge and industry, according to the graded and seven year's curriculum of the bards," etc. Both infirmary and university are domiciled in the wooden structure already mentioned, although no accommodations for patients were visible, nor means for instruction other

than a skeleton and a few miscellaneous bones, an antiquated electrical machine and a copy of Neil and Smith's Compend of Medicine, edition of 1864. The diploma was elaborate, however, in "double and twisted" Latin, as stated by the vendor, with the addition of certain phrases which resemble Welsh.

The fact that such institutions can be incorporated and do business under the laws of Maine, shows that either the Maine laws regulating corporations are very lax or that the lawgivers of the State are somewhat careless in their attention to matters before them.

In an interview, subsequent to the *Herald's* exposure, with a Lewiston reporter, "Dr." York pretended to regard the matter as a good joke, and denied selling a diploma, saying that the document was only a copy of a society diploma, an allegation which the document itself does not support. At this latter interview a degree from the famous Buchanan University, seen by the *Herald* reporter, had disappeared from the Druidic Doctor's walls.

The exposure has already been followed by action on the part of the Maine Legislature, which has in view the repeal of the charter of the Druidical University. Legislation should also provide for the future, that the legal existence of such institutions may no longer be possible.

#### MEDICAL NOTES.

##### BOSTON.

—The Committee on Public Health of the Massachusetts Legislature consists, on the part of the Senate of, Jubal C. Gleason, M.D., Rockland; Edward J. Jenkins, Boston; Edward Glines, Somerville. On the part of the House: Theodore Giddings, M.D., Great Barrington; Samuel B. Bird, Framingham; John Larrabee, Melrose; Daniel J. Maguire, Boston; Luther Conant, Acton; Jonathan Bigelow, Watertown; James Sullivan, Boston; Felix F. McCue, Montague. This Committee has at present before it the question of lowering the standard for pure milk.

##### NEW YORK.

—Dr. D. G. Brinton, of Philadelphia, who has recently been elected Professor of American Linguistics and Archaeology in the University of Pennsylvania, recently delivered a lecture before the New York Historical Society on "American Aboriginal Poetry."

—The Committee on Books and Newspapers of the State Charities Aid Association report that, during the past year, they distributed in hospitals and other institutions over 95,000 daily newspapers, 22,500 illustrated and weekly papers, 8,000 magazines, 2,800 bound books, and 5,000 Christmas cards.

—A legal case arising from railway injury in Troy, has just been finally decided by the Court of Appeals, after seventeen years of litigation. In April, 1870, the plaintiff, then a girl of ten years, was run over by the New York Central and Hudson River Railroad cars, while crossing an alley, and one of her legs was so badly crushed that two successive amputations

above the knee were required. The case has been tried four times in the Circuit Court in Troy, and seven appeals to the General Term and to the Court of Appeals have been taken by the unsuccessful party for the time being. In the fourth trial, the jury gave a verdict of \$7,500 for the plaintiff, and this has now been sustained by the Court of Appeals. The cost to the defendant, including interest, extra allowance, and court charges, is nearly \$20,000.

#### PHILADELPHIA.

—The Alleghany County Medical Society has voted an appropriation of one hundred dollars towards the expenses of the international Medical Congress, at Washington. Other County Medical Societies are preparing to follow this example.

—A death, last week, during the administration of chloroform at one of our College clinics, may serve as a text for repeating the old homily on the dangers of anesthetics. As usual, the chloroform was administered for a trifling operation, breaking up some adhesions after syngitis of the wrist; and, as usual, the patient was moribund before attention was attracted to symptoms indicating danger. The coroner's jury found that the patient had a fatty heart, and exonerated the physicians, but the stubborn fact remains that he died during the administration of chloroform. It would seem only a reasonable precaution for each hospital to have an experienced anesthetizer upon its staff, who should be intelligent enough to appreciate the responsibilities involved, and sufficiently trustworthy to assume them.

—The draught of an Act creating a State Board of Medical Examiners, prepared by a Committee of the State Medical Society, was submitted to the Philadelphia County Medical Society, recently, and favorable endorsement refused on account of the composition of the proposed Board, which was to be "mixed." There is a strong feeling that there should be some attempt to protect the community from ignorant and incompetent physicians, by the State. The registration law has done some good since it compels the showing of credentials, but this is but a slight gain. It is felt that some form of license to practice should be demanded, and that dependance upon the diploma as an evidence of fitness is a poor substitute for a State examination. Something of this kind is already required in the case of physicians who come into Pennsylvania with foreign diplomas, since it has been ruled by the Supreme Court that the Faculties of our Medical Schools "must satisfy themselves of the qualifications of the applicant," before endorsing the diploma, as required by the Act of June, 1881.

—While on the subject of legislation affecting the interests of the medical profession, it should be noted that the druggists are advocating a bill to advance pharmacy. It seems, however, that by its provisions a druggist is allowed to practice medicine so long as he confines himself to prescribing over the counter, and charges no specified fee, although he may demand

his own price for medicines furnished. There are also some restrictions placed upon physicians which, to say the least, are not demanded by the profession. Strange to say, an appeal is circulated among physicians for their signatures in favor of the passage of this law.

—The operation of excision of the larynx for malignant growth was performed at the Hospital of the University of Pennsylvania, on the 2d inst., by Prof. D. Hayes Agnew. The patient was a man, sixty-five years of age, of fair health but of rather intemperate habits, who six months ago applied to Dr. J. Solis Cohen, for some difficulty in his throat. A tumor of small size was discovered upon the upper portion of the arytenoid cartilage of one side; subsequently this steadily increased, until at the time of operation it was as large as a walnut. It grew upwards into the pharynx and had not encroached upon the glottis. Its surface was smooth, and it presented the appearance of sarcoma. The patient was fully etherized, and an incision made along the front of the thyroid cartilage and trachea. Preliminary tracheotomy was not performed; but the trachea was dissected for a short distance from the œsophagus, so that a ligature could be passed around it. The trachea was then cut across, and a silver tube, bent more acutely than those generally used, was slipped into a piece of rubber-tubing and the whole passed into the trachea, fitting it like a cork in a bottle; the ligature was then fastened so as to keep it in place. A piece of soft rubber-tubing was then attached to the free end of the tracheotomy tube, and a peculiar apparatus affixed to it. A funnel had its broad extremity covered with wire gauze, then a piece of flannel was laid over this, upon which the ether was dropped. This answered admirably for maintaining anesthesia during the operation. The remainder of the operation consisted in dissecting the larynx free from its attachments, dividing the epiglottis at its beginning, and removing several inches of the pharynx which appeared infiltrated. The wound was dressed antiseptically. The patient was nourished by means of an œsophageal tube. Dr. Formad, after examining sections of the growth, pronounced it epithelioma. The patient died on the fourth day after the operation, from exhaustion.

### Correspondence.

#### THE DOCTOR'S MESSAGE AGAIN.

NEW YORK, February 7th, 1887.

MR. EDITOR.—In your issue of February 3d, "B" wants to know what the Greek sentence on his office slate meant. The translation is "My relatives wish me to go home." But, goodness gracious! *τίς αὖτις ἐθέλησεν τὰς γὰρ ἐν Βοστώνῃ καμνοῦσι σὺν ἡμῖν τὰ τοιαῦτα ἐλλογιστὶ διαλέγεσθαι.*

Yours respectfully,

ROBERT T. MORRIS.

[For the benefit of the physician who failed to understand the message on his slate, a translation of the above

is appended: "We certainly supposed the sick in Boston were in the habit of speaking Greek with their physicians."—Ed.]

ST. LOUIS, 507 N. 14th St.

February 8th, 1887.

MR. EDITOR.—In reply to your correspondent "B," whose article appears in your issue of February 3d, requesting a translation of the following Greek sentence left on his table by some patient, I send my contribution. The sentence was "οι ἀρχαῖοι, ἐπὶ τῶν νοσούντων ἵσταντο τὴν ψυχὴν." To translate this may require some little thought, as it seems to be in the Attic dialect. "My necessities (the Fates, or my relations) require me to go home," is the way I should render it. Your subscriber "wonders how many of your readers can translate this sentence." I should

suppose it would be quite unnecessary to go out of Boston for a translation, but that every medical graduate of Harvard University ought to be able to translate it. In the opinion of the undersigned (a constant subscriber of your valuable JOURNAL for more than twenty years past) no one should be allowed to graduate as a doctor of medicine until conversant with the classic tongues.

Very truly yours, T. G. C., M.D.

EAST BOSTON, February 10th, 1887.

MR. EDITOR.—I would suggest as a translation to your Greek correspondent, "I cannot wait any longer;" or, more literally, "Necessity obliges me to go home." I hope the doctor will have the good fortune to see that patient; he is truly a *rara avis*.

Yours respectfully,

A READER.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 5, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Croup.	Measles.
New York . . . . .	1,481,920	793	342	25.74	30.54	1.43	10.01	9.75
Philadelphia . . . . .	993,861	—	—	—	—	—	—	—
Brooklyn . . . . .	743,108	—	—	—	—	—	—	—
Chicago . . . . .	725,000	—	—	—	—	—	—	—
St. Louis . . . . .	420,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	144	62	11.04	8.28	1.38	2.76	—
Boston . . . . .	400,000	170	52	15.95	16.52	2.36	7.08	1.77
New Orleans . . . . .	242,750	102	22	9.80	14.70	3.92	3.92	—
District of Columbia . . . . .	210,000	91	22	8.72	3.27	2.18	—	—
Pittsburgh . . . . .	210,000	76	31	32.88	13.15	1.32	7.92	10.49
Providence . . . . .	121,500	47	9	16.04	10.65	2.13	4.26	2.13
New Haven . . . . .	80,000	—	—	—	—	—	—	—
Nashville . . . . .	65,000	18	8	16.66	27.77	—	11.11	—
Charleston . . . . .	60,145	28	9	—	7.14	—	—	—
Portland . . . . .	40,000	11	4	27.27	—	9.09	—	9.09
Worcester . . . . .	68,383	15	9	13.33	26.66	—	6.66	—
Lowell . . . . .	64,051	37	10	10.80	18.90	5.40	—	—
Cambridge . . . . .	59,080	13	3	—	23.07	—	—	—
Fall River . . . . .	56,853	14	4	35.70	7.14	14.28	—	7.14
Lynn . . . . .	45,851	14	4	—	7.14	—	—	—
Lawrence . . . . .	38,825	13	2	15.38	7.69	—	—	—
Springfield . . . . .	37,577	—	—	—	—	—	—	—
New Bedford . . . . .	33,383	15	6	—	33.33	—	—	—
Somerville . . . . .	28,982	—	—	—	—	—	—	—
Salem . . . . .	28,064	10	2	10.00	—	—	—	10.00
Holyoke . . . . .	27,894	—	—	—	—	—	—	—
Chelsea . . . . .	25,709	6	1	16.66	16.66	—	—	—
Taunton . . . . .	23,674	—	—	—	—	—	—	—
Haverhill . . . . .	21,796	—	—	—	—	—	—	—
Gloucester . . . . .	21,713	9	2	—	22.22	—	—	—
Brockton . . . . .	20,783	8	4	12.50	37.50	—	—	—
Newton . . . . .	19,759	3	1	—	—	—	—	—
Malden . . . . .	16,407	1	0	—	—	—	—	—
Fitchburg . . . . .	15,375	5	0	—	30.00	—	—	—
Waltham . . . . .	14,609	9	2	11.11	11.11	—	—	—
Newburyport . . . . .	13,716	10	3	—	—	—	—	—
Northampton . . . . .	12,896	—	—	—	—	—	—	—
Massachusetts Towns . . . . .	—	—	—	—	—	—	—	—

Deaths reported 1,662: under five years of age 614; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases whooping-cough, erysipelas and fevers) 315, acute lung diseases 268, consumption 240, diphtheria and croup 108, measles 90, diarrhoeal diseases 23, typhoid fever 27, whooping-cough 12, scarlet fever 10, puerperal fever 10, malarial fever nine, small-pox eight, erysipelas six, cerebro-spinal meningitis five. From typhoid fever, Baltimore six, New York, District of Columbia and Pittsburgh four each, Boston three, Lowell two, Providence, Worcester, Lawrence and Chelsea one each. From whooping-cough, New York eight, Pittsburgh two, Baltimore and New Orleans one each. From scarlet fever, New York five, Boston, Portland, Pittsburgh, Providence and Brockton one each. From puerperal fever, New York, Pittsburgh and Providence two each, District of Columbia, Lawrence and Waltham one each. From malarial fevers, New York four, Baltimore three, New Orleans and District of Columbia one each. From erysipelas, New York four, Boston two. From cerebro-spinal meningitis, Boston and Fall River two each,

New York one. From small-pox, New York seven, Pittsburgh one.

In the 18 cities and greater towns of Massachusetts, with a population of 943,711 (population of the State 1,941,465) the total death-rate for the week was 18.95 against 22.45 and 20.74 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,345,099, for the week ending January 23d the death-rate was 22.8. Deaths reported 4,043: infants under one year of age 789; acute diseases of the respiratory organs (London); 531; measles 146, whooping-cough 92, scarlet fever 62, diarrhoea 36, fever 33, diphtheria 23.

The death-rates ranged from 15.0 in Derby to 33.8 in Plymouth; Birmingham 23.7; Hull 21.5; Leeds 28.4; Leicester 19.0; Liverpool 26.4; London 21.8; Manchester 30.1; Newcastle-on-Tyne 26.3; Nottingham 22.3; Sheffield 19.3; Sunderland 22.5.

In Edinburgh 23.2; Glasgow 27.8; Dublin 32.2.

The meteorological record for the week ending February 5, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.		Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather.			Rainfall.			
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount in Inches.		
Saturday, Feb. 5, 1887.		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount in Inches.		
Sunday...30	29.760	38.0	40.0	34.0	95.0	98.0	85.0	93.0	N.E.	S.E.	S.W.	4	7	15	O.	O.	C.	—	—
Monday...31	30.131	37.0	40.0	33.0	96.0	47.0	70.0	51.0	W.	N.W.	N.	14	12	11	F.	O.	O.	—	—
Tuesday...1	30.543	29.0	28.0	16.0	92.0	51.0	49.0	64.0	N.	N.	N.	20	14	13	O.	F.	O.	—	—
Wednesday...2	30.668	19.0	27.0	15.0	87.0	100.0	100.0	96.0	N.	N.E.	N.	10	32	16	N.	N.	N.	—	—
Thursday...3	30.196	21.0	30.0	16.0	92.0	90.0	90.0	91.0	N.	W.	S.W.	13	8	6	O.	Sl.	O.	—	—
Friday...4	30.440	24.0	33.0	14.0	68.0	46.0	73.0	62.0	W.	N.W.	N.W.	20	19	18	F.	F.	C.	—	—
Saturday...5	30.250	18.0	22.0	5.0	60.0	35.0	54.0	50.0	N.W.	W.	S.W.	11	6	6	F.	C.	O.	32	.72
Mean, the Week.	30.371	23.8	41.0	23.0				72.4											

O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., sleet.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 5, 1887, TO FEBRUARY 11, 1887.

FEYER, BLENCONE E., major and surgeon. Ordered to Fort Lowell, Ariz. Ter. S. O. 29, A. G. O., February 4, 1887.

LOBBING, L. Y., captain and assistant surgeon. Leave of absence still further extended three months on surgeon's certificate of disability. S. O. 29, A. G. O., February 4, 1887.

BRECKENSHIN, LOUIS, captain and assistant surgeon. Granted leave of absence for four months, with permission to go beyond sea, to take effect when his services can be spared by his department commander. S. O. 28, A. G. O., February 3, 1887.

BARROWS, C. C., first lieutenant and assistant surgeon. Ordered for temporary duty as post surgeon at Fort Barrancas, Fla., to take effect upon the expiration of his present leave of absence. S. O. 24, Division of the Atlantic, February 3, 1887.

PHILLIPS, JNO. L., first lieutenant and assistant surgeon. Leave of absence further extended one month. S. O. 29, A. G. O., February 4, 1887.

WOOD, LEONARD, first lieutenant and assistant surgeon. Ordered to proceed to these headquarters and report to the department commander, for temporary duty. S. O. 12, Department of Arizona, January 31, 1887.

#### SOCIETY NOTICE.

NORFOLK DISTRICT MEDICAL SOCIETY.—A meeting for Scientific Improvement will be held at the hall of the Roxbury City Guard, 67 Warren Street, Roxbury, February 22, 1887, at 7.45, P. M. Communications: I. "Remarkable Hypertrophy of the whole Right Leg, with Exhibition of the Case," F. C. Martin, M.D. II. "Experimental Research on Rabies," H. C. Ernst, M.D. III. "A Case of Intra-Orbital Abscess," W. S. Everett, M.D. S. ALLEN POTTER, M.D., Secretary.

#### APPOINTMENT.

Dr. J. W. Pratt has been elected Superintendent of the Massachusetts General Hospital.

#### OBITUARY. EZRA DYER, M.D.

Dr. Ezra Dyer, whose death on February 9th, has just been announced, was formerly a resident of Cambridge, and graduated at Harvard, in the class of 1857. He studied medicine with the late Dr. Jeffrey Wyman, and after passing a year as House-Surgeon at the Massachusetts General Hospital, sailed for Europe in the autumn of 1859. Remaining at Bonn a few months, for the purpose of familiarizing himself with the German language, he reached Vienna before the close of the year, and there decided to devote his entire attention to the study of ophthalmology; which science, thanks to the recent labors of Graefe, Arlt, and Donders, had just been re-created. These illustrious masters were then in their prime, and Dr. Dyer, for the next two years, followed their personal teaching, dividing his time, for this purpose, between Vienna, Berlin and Utrecht. He also entered the clinique of Desmarres at Paris, and came to London for the advantages to be derived from attendance at Moorfields, where Bowman and Critchett were at the height of their fame.

Returning to this country in the latter part of 1861, he settled first in Philadelphia, where his services were almost imme-

diately engaged in the ophthalmic department of the government military hospital at West Philadelphia, and where, too, he rapidly built up a successful practice. Some years later the health of a member of his family obliged him to seek a change of climate, and he removed to Pittsburgh. While there he met with a severe accident, and his own health having been seriously affected by the shock, as well as by the confinement he was obliged to undergo, he again removed to Newport, R.I., by the advice of his physicians. But he failed to gain the benefit he had hoped from the more genial air and milder climate of this resort, his strength slowly failed, and he died at sea, on the voyage from Savannah to New York, while returning from a brief excursion to Florida.

Dr. Dyer was one of the original members of the American Ophthalmological Society, and his name was a household word in the annals of this branch of surgery in the United States. Among his many services to science we have here only space to allude to the beautiful and ingenious perimeter, figured in the last volume of the Society's Transactions, and more especially to his discovery of the proper treatment of simple asthenopia, which under the name of "morbid sensibility of the retina," had been the despair of ophthalmic surgeons for one or two generations. His method of gymnastic training of the eye, the conception of which was due to his own experience as a trainer for athletic contests during his undergraduate days, revolutionized practice in this affection; gave a large percentage of successful results, and under the name of "Dyerizing," is widely known and generally appreciated at home and abroad.

To this hasty and imperfect notice a single word must be added. For thirty years past the writer has had the privilege of Dr. Dyer's personal and intimate friendship. He has realized, as few others could, the rare combination of clearheaded judgment, generous frankness and simple loyalty that made up his character. He was in the truest sense a friend in need; devotion and unselfishness personified. May he rest in peace.

H. D.

#### BOOKS AND PAMPHLETS RECEIVED.

Wear and Tear; or Hints for the Overworked. By S. Weir Mitchell, M.D., LL.D., Harv. Fifth Edition. Thoroughly revised. Philadelphia: J. B. Lippincott Co. 1887.

On Antiseptic Surgery and its Application in Military Hospitals and in the Field. By Surgeon Major John Martin, Army Medical Staff. London: J. & A. Churchill. 1886.

Clinical Manual for the Study of Medical Cases. Edited by James F. Halcyon, M.D. Second Edition, Revised and Enlarged with 158 Illustrations. Philadelphia: Lea Brothers & Co. 1886.

Zur Pathologie und Hydrotherapie der Cholera. Von Prof. Dr. Wilhelm Winternitz unter Mitwirkung der Herren Dr. L. Schweinburg, Dr. J. Pollak und Dr. J. Utschik. Leipzig und Wien, 1887.

Texas State Medical Association. Report of the Special Committee. Presented at the Annual Meeting at Dallas, April 27, 1886. George Cupples, M.D., Chairman and Reporter. Austin, Texas, 1886.

Diseases of the Joints. By Howard Marsh, F.R.C.S., Senior Assistant Surgeon to and Lecturer on Anatomy at St. Bartholomew's Hospital, etc. With 600 illustrations and a colored plate. Philadelphia: Lea Brothers & Co. 1886.

A Treatise on Simple and Compound Ophthalmic Lesions, Their Refraction and Dioptric Formulae. Including Tables of Crossed Cylinders and their Sphero-cylindrical Equivalents. By Chas. F. Prentice. Published by James Prentice & Sons, New York.

## Lecture.

MULTIPLE NEURITIS AND ITS RELATION TO CERTAIN PERIPHERAL NEUROSES.<sup>1</sup>

BY M. ALLEN STARR, M.D., F.R.C.,  
Professor of Nervous Diseases, New York Polytechnic.

## III. SPONTANEOUS CASES.

Is a considerable number of cases of multiple neuritis no cause of the disease could be definitely ascertained. Great fatigue by walking, or by hard labor and exposure to dampness and cold, are assigned as causes in some of these cases, and may have acted as etiological factors. In others the disease seems to have developed spontaneously.

*Symptoms.* Turning now to the consideration of the individual symptoms of multiple neuritis and their course, we are at once impressed by their number and variety.

The *sensory symptoms* are the earliest to appear and the last to pass away. In the majority of the cases on record, from whatever cause, numbness, tingling, or formication usher in the disease. These forms of paræsthesie begin in the feet and hands, and extend to the knees and elbows. They may be associated with burning, stretching, boring, or tearing sensations, which distress the patients, especially during the onset. But all such sensations usually subside as the affection reaches its height. Their recurrence, as the case goes on, may be regarded as a favorable symptom, however annoying, for they frequently precede recovery, and are among the last evidences of the disease to disappear. Pain is usually present as well as paræsthesie. It may occasionally be sharp in character; but is usually moderate and not continuous. At times it may be lancinating, and so severe as to necessitate the use of morphia. But it is rarely as distressing as in cases of locomotor ataxia. Tenderness in the nerves and muscles is a constant symptom. It may be so marked that the limbs cannot be moved or handled, and thus it may interfere with the application of electricity and massage. When the tenderness and pain are referred to the joints, as not infrequently occurs in the early stage of the disease, the case may be mistaken for one of acute articular rheumatism, and if the joints are swollen or the limbs œdematous, the difficulty of diagnosis is greatly increased.

In addition to these subjective feelings, some demonstrable disturbance of the various sensations is usually present. Hyperæsthesia to touch, and also to electricity, is not infrequently observed during the first few weeks. It is usually followed by some anæsthesia, although this rarely becomes complete. In some cases the loss of tactile sense is quite evident from the outset, either limited to the cutaneous distribution of some special nerve, in which case oddly-shaped areas of insensibility will be found, or, as is most often the case, about uniformly distributed over the distal parts of the extremities. When the anæsthesia is at its height, the patient has difficulty in locating a touch upon the limb, even though he feels it. The transmission of pain and temperature sensations is always delayed, but the impressions are usu-

ally felt quite acutely. The sense of pressure has been tested in only a few cases, and in those it was decidedly impaired. The muscular sense escapes any affection in some cases, but in others is the most profoundly disturbed of all the senses. When it is involved, the incoördination and ataxia are well-marked symptoms, and, as already stated, some of the cases have been mistaken for locomotor ataxia, because of the predominance of the disturbance of muscular sense.

These sensory symptoms are usually limited to the forearms and hands, and to the legs and feet. In a few cases they have involved the entire extremities, and even the trunk; and one case of facial tingling with anæsthesia has been recorded. The skin reflexes are usually preserved.

The special senses are rarely affected in multiple neuritis. It is true that optic neuritis has occurred in a few cases, and in two cases hearing as well as sight has been affected. These cases prove that no nerve can be said to be exempt from implication in this disease, but the liability to affection seems to be slight in the case of the nerves of special sense.

The *motor symptoms* are as marked and as important as the sensory. Paralysis, beginning as simple weakness, with a feeling of fatigue on any exertion, gradually increases in severity until, at the height of the disease, it becomes complete. It usually comes on rapidly, so that within two weeks the patient is helpless; but it may be less sudden, and not deprive him of the power of walking and of using his hands for two or three months. In a few cases a very acute onset is recorded, all the symptoms developing within three or four days. The distribution of the paralysis is not uniform at the outset. It may develop in the muscles supplied by a single nerve, and advance to others; it may begin in all the muscles of the legs, and then involve those of the forearms; it may commence in all four extremities at once. It is always more severe in the muscles which move the joints of the feet and hands, and the ankles and wrists. It rarely invades those which move the knees and elbows. When the disease is fully developed all the muscles below the knees and elbows are much weakened or totally paralyzed. In a few cases those of the thighs and arms are involved also, and occasionally the muscles of the trunk and those of respiration become affected and the patient dies. When such a paralysis makes rapid progress and involves all the body, the case resembles Landry's paralysis. But in multiple neuritis, as has been already stated, the disease does not creep up from legs to thighs, and then trunk and arms, as in Landry's paralysis. It spreads from feet to hands, from legs to forearms, and the trunk is invaded only at the end. In some cases of multiple neuritis the cranial nerves become involved; those of the eye and of the face being most liable to invasion. It is only in fatal cases that the action of deglutition has been affected; and when the pneumogastric is invaded, and the heart becomes rapid and irregular, the prognosis is always grave.

The paralyzed muscles are relaxed, flabby, and atrophied; they may or may not lose their mechanical irritability, but their normal tone is always lost, and hence the so-called tendon reflexes are abolished. To the electric current their excitability is very rapidly and markedly changed; but the conditions which have been observed are quite various. Some-

<sup>1</sup> Lecture II (concluded from page 154) of the Middleton Goldsmith Lectures, delivered under the direction of the New York Pathological Society, Jan. 28, 1887. For Lecture I, see page 161 of the Journal.

times there is a simple diminution of excitability, and then a very strong faradic or galvanic current is needed to produce contractions. Frequently all faradic excitability is lost, and then the muscles react to a galvanic current only. In this condition it may require a very strong galvanic current to produce contraction, and this fact is quite pathognomonic of neuritis. For an anterior polio-myelitis, where the muscles respond to galvanism only, it does not require a strong current to cause a motion until some months after the invasion. The action of the different poles is not uniform. In many cases the contraction of the muscle, when stimulated with the positive pole, is greater than when stimulated with the negative pole, and the contractions may be sluggish. Then the reaction of degeneration is present. But in some cases the normal condition is found, and the negative pole produces stronger contractions than the positive pole. If the muscles that are not paralyzed be tested, the same electrical changes may often be discovered in them. A loss of faradic irritability and a marked decrease in the galvanic irritability of the muscle and nerve are, therefore, important symptoms of multiple neuritis. And as the disease goes on to recovery, a gradual increase in the galvanic irritability occurs, a fact which is often of much aid in prognosis if careful measurements of the strength of current used be made by the galvanometer. I am accustomed to record such measurements upon charts, and thus to obtain an electric curve for each muscle which is paralyzed. These curves enable one to judge of the progress of the case quite accurately; and when the line is advancing steadily toward the normal point, after a great deflection or after a stationary level, the prognosis is very favorable.

As a result and accompaniment of the paralysis, *abnormal positions* are assumed by the limbs. The dropped wrist and dropped foot are quite characteristic of multiple neuritis. But other deformities may be present. In a few cases it has been necessary to resort to tenotomy, but a permanent deformity has not been recorded.

The *vaso-motor and trophic symptoms* are less constant than those already described. In some cases, marked oedema has been an early and permanent symptom. Sometimes profuse perspiration is a noticeable symptom, being limited to the paralyzed parts. It may be offensive, and by its evaporation always causes a complaint of coldness. In other cases glossy skin makes its appearance early, and remains until regeneration of the nerves begins. Its disappearance, in one of my own cases, was the first sign of recovery in the lower extremities. Other forms of trophic disturbance are rarely met with in multiple neuritis. And this is quite remarkable, in view of the fact that it has been the tendency of late to refer such trophic affections as ulcerations, bed sores, gangrene, pemphigus, and various eruptions, to lesions of the nerves.

A negative symptom of some importance is the absence of any interference with the automatic acts controlled by the sphincters.

One word about the onset. Occasionally it is sudden and accompanied by a marked febrile movement, with chill, and temperature of 103° to 104.5°. The fever may persist for several days, but usually subsides spontaneously, and does not recur. In a few cases there has been a constant elevation of temperature from one-half a degree to one and a half degree

above the normal; and an increase in the rapidity of the pulse throughout the disease has been noticed. A pulse of ninety need give no alarm, but if it runs up to one hundred and forty, and becomes irregular, there is reason to believe that the disease has attacked the vagus nerve, and then the prognosis becomes serious, though not by any means hopeless.

The duration of the disease varies considerably in different cases. An average of twenty-five cases gives seven months as the probable time required for complete recovery. But in these cases the duration varied from two months in the most favorable, to sixteen months in the most refractory.

The disease is more common in males than in females, excepting the form produced by alcoholism. Of 47 non-alcoholic cases, 33 were males.

All ages are liable to be affected, but in the records of multiple neuritis, excepting the form produced by diphtheric poison, the cases recorded do not include any children.

That children may be affected is, however, not at all improbable. Dr. H. D. Chapin, of New York, has described four cases of atrophic paralysis in children, in which the presence of sensory symptoms, pain, and muscular tenderness, and the steady progress toward recovery, pointed to the existence of multiple neuritis. The cases were such as are usually called infantile paralysis, but there were points of difference (namely, the existence of sensory symptoms) which removed them from this category.

*Diagnosis.*—While the individual symptoms occurring in the course of multiple neuritis are not different in character from those found in spinal cord diseases, the diagnosis can usually be reached with very little difficulty when their combination, the causation, and the course of the case under examination are considered. The varying combination of the symptoms possible has been manifest during their description, and it is not my intention to review them again. There are, however, three combinations which resemble very closely, respectively, anterior poliomyelitis, locomotor ataxia, and diffuse myelitis, and to these attention must be directed. Atrophic paralysis, with reaction of degeneration and loss of reflex, is common to anterior poliomyelitis, and some cases of multiple neuritis. In the latter, a more gradual onset, preceded and attended by numbness and pain, tenderness in the course of the nerves, tenderness in the muscles, and the persistence of sensory symptoms after the invasion, will remove all doubt regarding the diagnosis. When these symptoms are not clearly marked, the distribution of the paralysis in symmetrically situated muscles, especially if these muscles are supplied by single nerves, and the further extension to muscles in other nerve domains, rather than the affection simultaneously of muscles which are grouped physiologically (that is, act together to perform one function), will point to neuritis. In neuritis the paralysis advances more or less gradually, while in acute poliomyelitis there is, after the onset, a subsidence of the paralysis in some of the muscles first involved. And lastly, as the case goes on, a gradual complete recovery will be far more frequent if it was originally a case of multiple neuritis.

Ataxia, loss of knee-jerk, pain, and sensory disturbances, including a loss of muscular sense, Romberg's symptom, and optic neuritis, are common to locomotor ataxia and multiple neuritis. In the latter, the relatively rapid onset of the ataxia, which follows closely

upon the sensory symptoms; the prominence of numbness and anesthesia, rather than of lightning pains; the extreme degree of the anesthesia and analgesia; the tenderness of muscles and nerves; the usual occurrence of some degree of actual paresis, with atrophy and R.D.; and the absence of bladder and sexual symptoms, will point inevitably to the diagnosis. Furthermore, the ataxic form of neuritis only occurs after poisoning with alcohol or arsenic, or as a sequel of diphtheria, and the establishing of the causation will aid the diagnosis. Here, again, the course of the case toward recovery, with the return of the knee-jerk, will decide in favor of neuritis, if the diagnosis has not been reached in an early stage.

There are very few symptoms of diffuse myelitis which are not found in cases of neuritis. But cases of diffuse myelitis of the type of Duchenne, *paralyse générale spinale subaigue ascendante*, are very rare, and indeed, by Leyden it has been affirmed that all such cases are multiple neuritis. Other authorities dispute this assertion, and leave us to establish points of difference. These are as follows: In neuritis, affections of the functions of micturition and defecation do not occur. Girdle sensation is very rarely mentioned as a symptom. Bed-sores and cystitis have not been observed. The advance of the paralysis from the legs to the thighs and trunk, and then to the arms; it is usually from the legs to the forearms, the thighs and trunk escaping, and, as a rule, the distal portions only of the extremities are paralyzed. If the muscles of the abdomen and respiration are involved, it is only in rapidly fatal cases. In neuritis there is usually some ataxia, and loss of muscular sense is quite evident; while in some, at least, of the cases of myelitis of Duchenne, there were no sensory symptoms at all. Finally, the tenderness of muscles and nerves, and the absence of tenderness to pressure or to heat in the spine, would decide in favor of neuritis. The diagnosis from meningitis of the cord, from tumors or hemorrhages into the cord, or from general paralysis of the insane, would rarely present any difficulty to one who was familiar with the symptoms in those affections, and who knew the prominent features of multiple neuritis.

No small difficulty may be encountered, however, in settling the question whether in a given case we have to deal with multiple neuritis alone, or with multiple neuritis which is complicated by myelitis. The importance of the question is evident, since the prognosis in the two conditions is very different. And the number of autopsies on record in which this complication has been demonstrated, though few, is sufficient to make a decision of the question necessary. The following points may enable a determination of the question to be reached: (1) As long as a case is increasing in severity, or in the extent of the symptoms, no one can determine the extent of the lesion. It is only when its course has become stationary that the question of exact limitation will arise. Many cases remain practically without improvement for three or four months, and then gradually recover. A stationary condition alone does not, therefore, excite fear of a complication. But neuritis tends spontaneously to recover, the process of regeneration beginning soon after the degeneration has ceased. If, therefore, there appears to be no improvement of the condition after the fourth month, the probability is either that the cause of the disease has not been removed, or that

a myelitis has developed and prevents recovery. (2) The cause of a case of neuritis is quite characteristic, the symptoms reaching their maximum in a short time, and then subsiding. If, after a stationary period, further symptoms develop, we must believe either that the cause of the disease is renewed (for example, the use of alcohol) or that myelitis has begun. The symptoms of such a myelitis will be an increasing weakness, and more rapid and progressive atrophy of the muscles; a gradually-decreasing degree of galvanic excitability in the paralyzed muscles; a loss of pain and temperature-senses, which, as a rule, are not affected in neuritis; a decrease in the parasthesia, and an increase in the degree of anesthesia; the development of loss of control over the sphincters; the occurrence of bed-sores, furuncles, eruptions of a bulbous nature, and the beginning of cystitis. (3) On the other hand, if the symptoms are gradually improving; if the power gradually returns; if the anesthesia decreases, and is succeeded by parasthesia, however disagreeable to the patient; if the galvanic excitability becomes gradually more acute in the muscles, so that the electric curve approaches the normal line; if the faradic contractility returns in the muscles; if the tenderness of muscles and nerves decreases; and if the glossy appearance of the skin disappears, it may be stated that no complication of myelitis has occurred, and that recovery, though possibly prolonged, will at length result.

Another question of diagnosis must also be considered. It is found that in no small number of cases of locomotor ataxia multiple neuritis develops as a complication. How can we determine when this complication exists? The symptoms of the two diseases may be so nearly identical that difficulty arises in distinguishing them. When they coincide it is equally difficult to determine to which any given symptom belongs. Pitres and Vaillard, who have considered this subject most carefully, affirm that there is no constant relation between the severity of the central and peripheral lesions when they coincide. But there are certain symptoms which develop in some cases of tabes, but not constantly, which may be looked upon as accidental, and thus traced to neuritis. Such are the appearance of plaques of anesthesia and analgesia of limited area, muscular weakness or paralysis of limited extent, trophic disturbances in the skin (for example, perforating ulcer), nails, joints (for example, Charcot's disease), bones (for example, spontaneous fractures), and teeth (for example, spontaneous falling out), and possibly the various crises referable to the viscera and larynx. In cases which competent observers have examined, peripheral neuritis has been found *post-mortem* in the nerves supplying the parts in which these symptoms appeared. It is, therefore, reasonable to conclude that in any case of locomotor ataxia in which the symptoms develop, we have to deal with a posterior sclerosis which is complicated by a peripheral neuritis. And here again the distinction has a bearing upon the prognosis, for the symptoms of the accidental kind may pass off, while those due to the central lesion will remain. While these conclusions of the French authors are of importance, it must be noticed that their claim that trophic disturbances are due to a complicating neuritis is by no means substantiated by the history of cases of multiple neuritis, in which, as we have seen, trophic disturbances of the varieties mentioned do not occur.

*Prognosis.*—The prognosis in multiple neuritis is good, provided the exciting cause can be removed. The only cases which form an exception to the rule are those whose constitution is much impaired by excesses or by other diseases.

*Treatment.*—The treatment of multiple neuritis requires patience, but receives the reward of success. As we have already seen, the majority of the patients recover, and it is probable that, if the cause of the affection were removed and the patients placed in favorable circumstances, expectant treatment would alone be sufficient. It is, however, not advisable to let therapeutics play a passive part. The course of the disease can be altered and its duration much shortened by active interference. In the stage of invasion the free use of salicin, salicylic acid, or the salicylate of soda, seems to have important results. These remedies cannot be said to act as promptly as in cases of acute articular rheumatism, but the consensus of opinion is that their effect in multiple neuritis is very marked. They should be given, as in acute rheumatic fever, in large doses, until noticeable effects are obtained. They should be combined with the bromide of potash or soda, partly because these drugs counteract unfavorable symptoms produced by the salicin compounds, and partly because, in the hyperæsthetic irritable condition attendant upon the invasion of the disease, they are indicated. This condition may require stronger sedatives, and not infrequently morphine must be employed to give relief from the excruciating pains. The pains are often relieved by hot or cold applications to the limbs; but as the muscles are often exceedingly tender, ordinary applications cannot be made. It is then advisable to use evaporating lotions, preferably those containing chloroform, which may be soaked into light cambric or gauze, and gently placed upon the limbs, which lie upon the softest pillows, or which may be more comfortable if the patient is put upon a water-bed. Applications of a five per cent. solution of carbolic acid have also been of use. If cool applications prove intolerable, heat may be employed. The limbs may be enveloped with cotton and covered with oiled silk, a light bandage keeping these in place; or they may be frequently bathed in hot water, and hot bottles placed against them, some soft substance intervening. One of my patients found great relief from the paræsthesia by cold douches, while another preferred the use of hot water. It is best to let the patient decide, as long as the application has to be made for the relief of pain. Gentle friction with oil of coconut often affords comfort. In the chronic stage, as we shall see presently, heat is to be preferred to cold. Cases which are distinctly syphilitic, if such occur, should be treated from the outset with inunctions of mercury and large doses of iodide of potash. I believe that both these drugs should be employed together, even in the tertiary stage of syphilis, and it is my experience that all syphilitic nervous lesions, whether central or peripheral, yield more promptly to their combined use than to the employment of either alone. Malarial cases must be treated with quinine or Warburg's tincture. In non malarial cases quinine has proved of no avail. In cases which are due to poisoning of any kind the first necessity is to eliminate the toxic agent from the system, and the second to prevent any further injection of the poison. Iodide of potash aids in the elimination. The second indication is easily fulfilled when

arsenic or lead are the toxic agents; but when the case is due to chronic alcoholism special precautions are needed. Alcoholic cases require from the outset special treatment. The condition at the time of the onset of the paralysis may be one verging upon delirium tremens. If all alcohol is suddenly removed, without due care to supply some other heart-stimulant and to secure the perfect nutrition of the patient, serious collapse may ensue. The first necessity is therefore to take care of the general condition of the patient. If this will admit of the immediate withdrawal of all alcoholic stimulation, it should be done; if not, the alcoholic beverage must be immediately reduced in quantity, and as soon as possible wholly cut off. The use of milk diet, or kumyss, or pancreatized milk, or if necessary, rectal alimentation, will be followed by a gradual recovery of the power of assimilation, and as soon as the patient ceases to lose weight all alcohol may in any case be safely stopped; its elimination by the intestines and kidneys may be hastened by appropriate means, and cerebral symptoms if they arise may be treated as in other cases of alcoholic intoxication. But it is in the chronic stage, when the patient is gradually recovering, that the vigilance of the physician is called into play to prevent a renewal of the poisoning. It is amazing that patients who know perfectly the injurious effect of alcohol upon them should insist upon getting it. But it is done. And when these patients are surrounded, as is often the case, by sympathizing friends, or servile domestics, or unscrupulous nurses, who do not appreciate the importance of total abstinence either for themselves or for the patient, they often succeed in baffling all attempts to deprive them of the favorite drink. It is only when they are watched constantly by persons who can be implicitly trusted, and who have sufficient authority to cut off all surreptitious supplies, that the physician can feel sure that his commands are obeyed. And this precaution is by no means needless even when it is probable that family servants are trustworthy. For the continued pleading and remonstrance of the patients may corrupt the best of attendants, especially if accompanied by threats of discharge at a future day. It is therefore necessary to place these patients under the surveillance of trained nurses from the start, or to remove them to an institution where they are under control.

In the chronic stage the drugs which are of greatest service are strychnia and arsenic. Strychnia may be given in doses of  $\frac{1}{16}$  to  $\frac{1}{8}$  gr. t.i.d. and it is well to combine it with phosphoric acid and the syrup of the hypophosphites. Arsenic may be used in tablets or pills containing  $\frac{1}{16}$  to  $\frac{1}{8}$  gr. t.i.d. or in Fowler's solution, five to eight drops t.i.d. The use of iron with these two drugs will be indicated in the majority of cases where there is attendant anemia. In alcoholic cases both arsenic and strychnia may increase the mental irritability, but should be continued unless this becomes too great. I have seen benefit from both of these drugs, and think it well to employ them alternately, using each for about two weeks at a time.

The remedies used in the chronic stage have two objects: one is to increase the rate of repair in the nerves; the other is to keep the nutrition of the muscles as good as possible. While the drugs mentioned probably meet the first indication, there are other remedies which meet both. These are massage, warm baths and electricity. The proper manipulation

of the limb increases the circulation in it. The increase of circulation brings fresh supplies of material to the nerve which is undergoing repair; it also aids the nutrition of the muscle, which would otherwise be decidedly affected by the sluggish flow of venous blood, due to the lack of functional activity. As soon, therefore, as the active progress of the disease is checked and the muscular tenderness has sufficiently subsided to allow the limbs to be rubbed, this potent remedy should be employed daily.

Allusion has already been made to baths and douches in the early stage, for the purpose of quieting sensory symptoms. In the chronic stage the object is a different one. Like massage, warm baths and douches stimulate the circulation and aid the nutrition and reparative processes in progress. Hence they are to be used daily. And if the warm bath be given at night it will secure not only a local action, but produce a general sedative effect, insuring quiet rest. In multiple neuritis, as well as in many other nervous affections, not due to *æmia*, a warm bath at night, or a warm douche to the neck and spine, is far preferable to and more efficacious than the majority of hypnotic drugs in causing a good night's sleep.

The last agent to be mentioned is electricity. It is, however, among the first in importance, and in its use it is necessary to know what object is sought in its application. There is first the object of increasing the progress of nerve regeneration. This may be attained by the application of a constant galvanic current in the degenerated nerve, passing the current through the nerve in either direction, or in both alternately. A mild current should be employed, its strength being measured by a galvanometer. The strength of the current will depend: (a) on the size of the sponges placed upon the skin, (b) on the pressure upon the sponges, (c) on the resistance of the skin, and (d) on the number of cells of the battery used.

If the sponges are two inches in diameter, six milliamperes is enough; if they are three by five inches in measurement, twenty milliamperes should not be exceeded. If no galvanometer is used, the strength of the current employed is uncertain. But it is to be remembered that the current grows stronger the longer it passes, since the skin resistance is gradually overcome; and therefore, if the strength is measured in cells, the number of cells used should be decreased gradually during the application. As so few practitioners use a galvanometer it may be well to state that with large sponges, (that is, three by five inches) wet with warm water, a freshly-filled bichromate of potash battery will give nearly one milliamperé of strength for every cell used during the first three minutes, provided the sponges be put on any part of the body except the soles of the feet or the palms of the hands, and pressed firmly upon the skin. After the first three minutes, the body-resistance decreases, so that when twenty cells are used to start with, one should be cut off every half minute until the number is reduced one-third. The duration of the application should be about ten minutes to each limb. During this time the distal sponge should be passed over various parts, so as to include all the nerve-branches in the current; the central sponge should be put over the nerve-trunk high up on the limb. The current should be begun and stopped gradually, and never suddenly broken. Applications may be made daily.

The second object to be obtained is to re-establish the conduction of impulses in the regenerated nerve. This is secured by the method just described. It may be attained by the use of faradism, the interrupted secondary current being sent along the nerves by placing one pole over the nerve-trunk and passing the other over the skin of the limb. The strength used should be just sufficient to be felt distinctly through the palms of the operator's hands. The third object sought is to maintain the nutrition and function of the muscles by exercising them, and thus preserving their normal irritability. This cannot be done by a faradic current, as long as they do not contract to it. The galvanic current must therefore be employed. But now it is not a steady current which is needed, for this does not cause any motion. It is only when the steady current is suddenly broken and renewed, that the contraction occurs. Hence we place one pole over the trunk of the nerve, and the other upon the muscle, and with an interrupting electrode make and break the current at the pole which is on the muscle. The pole which produces a contraction with the least current possible, is the one to be applied to the muscle. This is in R.D., the positive; in normal conditions, the negative pole. Each muscle should be exercised for three or four minutes every other day. When electrical treatment is thus employed every marked improvement is observed, which can be measured accurately if a galvanometer is used, since every week will show a change of the strength of current needed to produce muscular contractions toward the normal.

The treatment must be kept up, in the chronic stage, until recovery is complete.

If contractures have occurred in the paralyzed limbs persistent massage may overcome them. If it does not, they are to be treated on general surgical principles.

### Original Articles.

#### A CASE OF CONTRACTED FINGERS (DUPUY-TREN'S CONTRACTION) SUCCESSFULLY OPERATED UPON AFTER THE METHOD OF MR. ADAMS (ILLUSTRATED).<sup>1</sup>

BY JOHN HOMANS, M.D.,  
Surgeon to the Massachusetts General Hospital.

THE patient, who is thirty-two years old, is a conductor of a railway train. The contracted and perfectly stiff condition of the third and fourth fingers of his left hand vexed and hindered him all day long in his occupation of collecting tickets and fares. This contraction had been going on for nine years, and was started by a wound of the palm, until, when he applied for relief in March, 1886, his little finger was flexed almost completely on his palm; his ring-finger was bent at a right angle, and his middle finger was somewhat bent. He was admitted to the Massachusetts General Hospital, and I agreed to operate if he would take time for after-treatment and be patient, and not be disappointed if amputation of the little finger became necessary. I need not say that he deserves commendation for having been a most satisfactory patient. Dr. S. J. Mixer, Surgeon to Out-Patients at the Hospital, took these photographs (Figs. 1 and 2)

<sup>1</sup> Read before the Surgical Section of the Suffolk District Medical Society, December 1st, 1886. Patient exhibited.

before and after treatment, and I am under great obligation to him for this service, as well as for his uniform kindness and assistance in many other ways.



FIG. 1.



FIG. 2.

Mr. Adams states that finger contraction takes place in men at about the middle, or beyond the middle period of life. He has never seen it in women. As one finger (generally the little one) becomes bent, the next one follows, and then the next adjacent, but the first finger and thumb usually escape. The pathology and treatment of this contraction are not wholly settled; but the French surgeon, Dupuytren, in 1832, first showed that the flexor tendons have nothing whatever to do with the contracted state of the fingers, and that they are not shortened an atom, but that contraction of the palmar fascia, and its prolongations, binds down the fingers with bands as stiff and unyielding as steel; and that these contracted bands of aponeuroses have only to be divided thoroughly to liberate the stiff fingers.

I will quote at length, from Mr. Adams, a description of Dupuytren's discovery and conclusion.

"A man, who for some time had been under the observation of M. Dupuytren, and was the subject of this deformity, died, and M. Dupuytren succeeded in gaining possession of the arm and hand. A careful drawing of the parts was made before dissection. The whole of the skin was removed from the palm of the hand, as well as from the palmar surface of the fingers. The result was the complete disappearance from it of the folds into which it had been gathered. This opening-out showed that its arrangement during the disease was communicated to it, but in what way, or by what means, was not evident. Continuing the dissection, the Professor exposed the palmar aponeurosis, and was surprised to find it retracted and shortened. From its inferior part were given off bands, which passed to the sides of the affected finger. On making movements of extension in the affected fingers, M. Dupuytren observed that the aponeurosis underwent a kind of stretching and crackling. This threw light on the subject. It seemed clear that the aponeurosis was somehow connected with the deformity produced by the disease. The affected point remained to be discovered. The prolongations to the sides of the fingers were then divided; the contraction disappeared at once, and the fingers assumed their normal condition of one-third flexion. The smallest force was now sufficient to bring them into a state of complete extension. The tendons were not implicated in any way, and their sheaths had not been opened. All that had been done was the removal of the skin, and the divisions of the bands of aponeurosis going to the bases of the phalanges.

"In order to remove all doubt and objections, M. Dupuytren dissected out the tendons. They retained their natural volume and mobility, as well as the smoothness of their surfaces. Continuing the examination, it was found that the articulations were in their natural condition, the bones not enlarged, roughened, or presenting in any way, either externally or internally, the smallest degree of change. No alteration was observed in the apposition of the articular surfaces, nor in their external ligaments, no ankylosis; nor had the synovial sheaths, or the cartilages, or the synovial membranes, undergone the slightest change. The conclusion naturally arrived at from these conditions was that the starting point of the disease was the excessive tension of the palmar aponeurosis. As regards the cause of the palmar lesion, it was considered to result from injury to the aponeurosis, caused by the too violent or too prolonged action of some hard body held in the palm of the hand."

This deformity has since been spoken of as "Dupuytren's finger contraction"—a well-deserved compliment to a great observer and surgeon.

I will not discuss the causes of the affection, but will describe the operation in my present case, and that will give a good idea of the usual manner of proceeding: On March 27th, 1886, after etherization, a puncture was made between the transverse crease in the skin and the annular ligament (as advised by Mr. Adams) with a very fine tenotomy knife. This puncture should be made where the skin is not adherent to the fascia nor tightly stretched, so that the knife can be readily introduced between the two. I then cut downwards, dividing the tight bands and any digital prolongations that I could find. I then made a second puncture as near the finger as possible, and divided bands in the same way. Other punctures and divisions were then made between these two. All this cutting was done as subcutaneously as possible. The punctures were covered with carbolyzed absorbent cotton, and the fingers immediately straightened as much as possible, and bound to a moulded metallic splint. This immediate extension is a most important part of the treatment. Pain was relieved by morphia. On the 28th the fingers were somewhat swollen; on the 30th he was up and about. The extension was increased on the 31st, and the little finger was much straighter, and the ring-finger nearly straight. After this he was treated as an out-patient. Here are some illustrations from Mr. Adams's book, showing that the tendons are not all involved, as they may be seen lying against the phalanges and in their sheaths, while the cause of the contraction (the fibrous bands of aponeurotic tissue) are well shown.

Mr. Adams goes on to say:

"Anatomical impossibility of the flexor tendons being involved in contraction; the impossibility of the flexor tendons being involved in Dupuytren's contraction of the fingers, will, I think, become apparent to any surgeon after an attentive examination of the anatomical relations of the flexor tendons to the fascia and the bones at the parts where the most prominent contracted cords usually exist, namely, first, in the palm of the hand, at a spot corresponding to the transverse flexion furrow, where the most tense and prominent solitary cord generally exists; and, secondly, in the neighborhood of the cutaneous web between the fingers, where the smaller, but very resisting contracted bands of fascia are always met

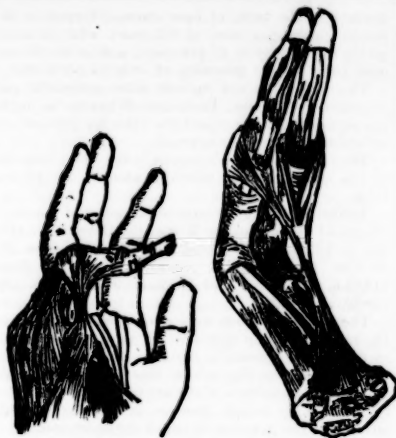


FIG. 3.

FIG. 4.

No. 3. More complete dissection of another specimen, showing flexor tendons in their normal position, and not in the least contracted. (After Adams.)

No. 4. Contraction of palmar fascia. (After Adams.)

with, and are directed towards the sides of the phalanges. At these two spots we have then particularly to study the anatomical relations of the flexor tendons to the fascia, and to the bones.

"First, with regard to the transverse flexion-furrow in the palm of the hand: by this, I mean a transverse crease which, on flexion of the fingers, is converted into a deep furrow, passing transversely across the palm of the hand, rather more than an inch above the margin of the cutaneous web between the fingers. This transverse crease or furrow is no doubt produced by the habitual flexion of the fingers upon the palm of the hand, and will be found to be more conspicuous in proportion to the hand-labor performed. This transverse crease, or flexion-furrow, precisely corresponds to the metacarpo-phalangeal articulations, and if a needle is entered at this transverse furrow on the palmar aspect, it will, in transfixing the hand, pass through the metacarpo-phalangeal articulation.

"Now, we know, as an anatomical fact, that the flexor tendons of the fingers enter into a dense tubular sheath on the palmar aspect of the first phalanx, just at the margin of the metacarpo-phalangeal articulation, and continue their course along the finger, in close proximity with the bone, so that a needle transfixing the hand from the transverse flexion-furrow in the palm, very closely indicates the spot at which the flexor tendons enter their dense tubular sheath. From this dense tubular sheath no anatomist would believe the flexor tendons could be dislodged by any traction power exerted by contraction of the palmar fascia; yet the spot at which the tendons enter the sheath, also corresponds to the most prominent part of the large solitary contracted cord, observed in the palm of the hand.

"Reasoning, therefore, from these anatomical facts, we can only conclude that the tense solitary cord in the palm of the hand must be one of the four large sub-divisions of the palmar fascia, into which it

divides, and which pass towards the four outer fingers, as far as the metacarpo-phalangeal articulations; and it is therefore impossible that the flexor tendons of the fingers could be reached or divided by the surgeon when he divides the tense solitary cord in the palm of the hand.

"Secondly, opposite the metacarpo-phalangeal articulations, the four great sub-divisions of the palmar fascia are connected by transverse bands, and then they subdivide into digital prolongations, which pass on either side of each finger towards their insertion into the bone of the first phalanx, external to, and along the margins of the dense tubular sheath enclosing the flexor tendons.

"The insertion of the digital prolongations of the fascia into the periosteum of the first phalanx, is not accurately described in many anatomical works—the insertion into the sheaths of the tendons being more generally recognized. Professor Curnow, of King's College, is in the habit of directing the attention of his class especially to the insertion of the digital prolongations of the palmar fascia into the periosteum of the first phalanx, external to and along the borders of the sheath of the flexor tendons.

"I have satisfied myself of the accuracy of this by my own dissection, and have seen it admirably displayed in the dissections used by Dr. Curnow.

"It appears to me that the drawing down of the first phalanx is the more readily explained when the insertion of the digital prolongations of the fascia into the periosteum is borne in mind.

"It will thus be seen that above and below the transverse flexion-furrow in the palm of the hand, we have important differences in the anatomical arrangement of the palmar fascia; above this line, we have the four great sub-divisions of the palmar fascia, proceeding centrally towards the four outer fingers; and below the line towards the fingers we have the digital prolongations of the fascia proceeding laterally to the sides of the phalanges.

"The tense solitary cord frequently seen above the transverse flexion-furrow might well, from its situation, direction, and thickness, be taken for one of the flexor tendons; and in my earlier operations I divided it in the belief that it was a tendon, or at least that the tendon and its sheath, as well as the palmar fascia, were involved in and contributed to form the tense contracted cord. The after-treatment, by gradual mechanical extension, was also based upon this supposition, which I have now satisfactorily proved to have been erroneous. It was the conviction of this error which led me to abandon the method of gradual mechanical extension, and adopt the plan of immediate extension advocated in the present paper."

I have thought this case interesting enough to bring before this Society, and to call attention to the successful treatment of this very annoying disease.<sup>2</sup>

After a cure has taken place, it is well for the patient to wear some form of light retentive splint at night.

— The present value of the Johns Hopkins endowment is said to be about \$5,000,000. It yielded a net income, last year, of about \$226,000.

<sup>2</sup> For further information on this most interesting subject, the reader is referred to "Observations on contraction of the fingers and its successful treatment by subcutaneous divisions of the palmar fascia and immediate extension," by William Adams, F.R.C.S. London, J. & A. Churchill, 1879.

SUBPERIOSTEAL AMPUTATION AT THE HIP-JOINT AFTER HIP DISEASE.<sup>1</sup>

BY E. H. BRADFORD, M.D.

NEGLECTED cases of hip-joint disease occasionally present themselves, in which, owing to extensive caries of the pelvis or in the length of the femur, excision offers no chance for a cure; in other instances excision has failed to arrest the destructive process in the bone, and the surgeon is left to choose between surrendering the patient to a lingering and wretched death, or the very radical measure of amputation at the hip-joint.

In making this choice he needs information as to the chances of recovery offered by amputation, and if the operation is decided on, as to the best method of procedure.

The former can not be found in the ordinary tables of mortality after amputation, as it would appear that the risk of death is greater when this operation is done after injury, or for the removal of tumors, than when the patient is freed by the amputation from an extensively carious and useless limb, which has itself served as an impediment to recovery.

Ashhurst<sup>2</sup> has collected thirty-four cases of primary amputation at the hip-joint for hip disease, and thirty-one consecutive, (that is, after excision,) and found nineteen deaths. This, rejecting five cases where the result was undetermined, would give a mortality of thirty-two per cent.<sup>3</sup>

The death-rate of amputation at the hip-joint after injury is 70.9 per cent., and for disease in general, 42.6 per cent.

It is to be expected that this percentage of mortality may be reduced by greater attention to detail, as in the case with other large operations. In fact, an examination of the accompanying table of cases of hip amputation (after hip disease) done since Ashhurst's table was made, would substantiate this idea. This is the more noticeable as important improvements in controlling hemorrhage have lately come into vogue in the operation.

LIST OF AMPUTATIONS AT THE HIP-JOINT FOR HIP DISEASE, NOT INCLUDED IN ASHURST'S TABLES.

No.	Surgeon.	Result.	Reference.
1	Beddard	Recov'd	British Med. Jour., June 7, 1884, p. 1080.
2	Bradford	"	Boston Med. and Surg. Jour., Dec. 11, 1884.
3	F. Jordan	Died	British Med. Jour., loc. cit. [p. 564.]
4	"	"	" " " "
5	"	Recov'd	" " " "
6	Ledliard	"	" " " "
7	Littlewood	"	" " " "
8	Lloyd	"	" " " "
9	Lutz	"	St. Louis Med. and Surg. Jour., 1879, xxx.
10	MacLaren	"	British Med. Jour., loc. cit. [vii, p. 566.]
11	"	"	" " " "
12	Marshall	"	British Med. Jour., 1885, xli, p. 220.
13	"	"	" " " "
14	"	"	" " " "
15	"	"	" " " "
16	"	"	" " " "
17	"	"	" " " "
18	May	"	British Med. Jour., June 7, 1884, p. 1080.
19	Pilcher	"	" " " "
20	Rodlick	Died	Phila. Med. News, 1885, xli, p. 220.
21	Shuter	Recov'd	Clinical Society Trans., 1882-3, xvi, p. 86.
22	Spoorth	"	British Med. Jour., 1884, p. 1080.

According to Ashhurst, we have 60 cases, with 19

<sup>1</sup> Read at the meeting of the Surgical Section of the Suffolk District Medical Society, held December 1st, 1886.

<sup>2</sup> International Encyclopedia of Surgery, Vol. iv, page 501.

<sup>3</sup> One of these nineteen fatal cases (that of Buffon) should strictly be considered an operative success, as death did not take place till three months after the operation.

deaths; in the table of later cases, 22 cases, with 3 deaths; making a total of 82 cases, with 22 deaths, giving a mortality of 27 per cent., and in the 22 cases done since 1880, a mortality of only 14 per cent.

This table does not include other successful cases reported by Denons, Buchanan Wheaton, as it was not certain from the report that the hip-joint was involved in the caries or necrosis.

The mutilation which results is the chief objection to the operation, but partially met by an artificial limb.

Artificial limbs have been reported as of use in the "Surgical History of the War of the Rebellion," (Part III, p. 131); and by Denons, *Bulletin and Mem. Soc. de Clin.* (xxxvii, 560.); Shuter, *Clin. Soc. Trans.* (1882-3, xvi, 86); and Barker, *Trans. Clin. Soc.* (1882, xvi, 258).

The two latter cases were done subperiosteally, and the resulting stump appeared to show a new bone or cartilaginous formation, in the periosteum of the femur left in the flap, which was of material assistance in the usefulness of the artificial limb. Shuter's case should be looked upon as illustrating a decided advance in the practical value of the operation.



An undoubted reformation of bone has taken place in the case operated upon by the writer three years ago. As yet no artificial limb has been fitted, as the patient is still young — ten years of age.

At the time of operation he was reduced to lowest limit of emaciation; excision of the hip had been done with but temporary benefit, and there was extensive disease of the pelvis and pelvic abscesses. He has steadily gained since the operation; several sinuses remained in the flap which was riddled before the amputation. A few abscesses have appeared in the stump from caries of the pelvis. These have, how-

ever, all healed with the exception of one, which has nearly healed. The boy has increased in weight, and now is heavier than boys of his age (ten years), weighing fifty-six pounds. According to Bowditch's tables, a boy of that age should weigh sixty-four pounds. He is fifty inches tall, which should give in the average boy a weight of sixty pounds. Considering that he has lost one entire lower extremity, which may be estimated as weighing at least ten pounds, it will be seen that he is above the standard in weight, an evidence that the carious process is arrested in progress.

Absolute economy of blood — of the utmost importance in all hip amputation — is vital in cases reduced to the physical extremity seen in cases of hip disease undergoing this operation.

For controlling hemorrhage neither digital compression nor abdominal tourniquets are to be trusted, although the former can be used in children with less risk than in adults, and is still used by Marshall. Davy's lever in the rectum has caused death by perforation of the gut, and has little but novelty in its favor.<sup>4</sup> Trendelenburg's method of compressing the flaps by means of a rubber tube which is placed over the thigh and is wound round both ends of a steel rod passed through the thigh, the vessels being compressed between the rod and the rubber tube, presents no advantages over an elastic compression properly applied. The best way is that described by Mr. Jordan Lloyd.<sup>5</sup>

The limb should be elevated and stripped of blood, and an elastic bandage is doubled and passed between the thighs,<sup>6</sup> its centre lying between the tuber ischii of the side to be operated upon and the anus. A pad in the shape of a rolled bandage is tied over the external iliac artery, the ends of the rubber are drawn tightly upwards and outwards (one in front and one behind) to a point above the centre of the iliac crest of the same side. The front part of the band passes across the compress, the back part runs across the great sciatic notch and prevents bleeding from the branches of the internal iliac. The ends of the bandage are tightened, and should be held by the hand of an assistant placed just above the centre of the iliac crest. Mr. Lloyd suggests that a short piece of wooden rod can be slipped under the elastic, and is a convenience in holding this rubber band. This elastic bandage should not be allowed to slip down below the iliac crest or over the tuber ischii. This can be done by the hand of an assistant or by passing a bandage under the elastic and tying it to the patient's shoulder.

The method of disarticulating, so popular in the operating classes, and known as Lisfranc's method, is not readily done if an elastic tourniquet is used. To check all bleeding it will be found most convenient to amputate as if at the upper part of the thigh, and tie all bleeding points, removing the remaining fragment by a lateral incision. This is practically the method recommended by M. Furneaux Jordan. A lateral incision is made as in excision of the head of the femur — the head of the femur is excised in order that it be out of the way, the lateral incision is prolonged and the shaft of the femur separated for two or three inches in its length from the surrounding muscles — taking care that the periosteum remain with the muscles. A cir-

cular amputation of the thigh is then done, the bone sawn through, or if entirely freed from the surrounding tissues by the lateral incision, pulled out from the flaps. The vessels are tied and the tourniquet removed.

The operation in this way can be done without the loss of any appreciable amount of blood. There is time for due deliberation, as there is no danger of a death upon the table by a sudden gush of hemorrhage.

The following conclusions would appear to be justified: amputation at the hip-joint, in hip disease, should be regarded as the very last resort, contra-indicated by extensive amyloid degeneration of the viscera, or a moribund condition of the patient.

The chances of mortality are not greater than the chances given in amputation of the thigh in general.

The chances of a permanent cure (barring the mutilation) would appear to be greater than after excision at the hip-joint.

The amputation should be done subperiosteally whenever it is possible. An elastic tourniquet gives the best means of preventing hemorrhage.

Preliminary excision of the head of the femur, in freeing the upper part of the shaft, will be found to facilitate the amputation.

NOTE. — We have examined the stump of the patient shown by Dr. E. H. Bradford, at the meeting of the Surgical Section of the Suffolk District Medical Society, on December 1st, 1886, and upon whom he had three years before performed subperiosteal amputation at the hip-joint after suppurative hip disease; and we found in the centre of the stump a hard resistant mass, having on palpation the characteristics of bone. This mass was about two inches thick and four or five inches long, and projected downwards slightly flexed in the natural axis of the limb.

GEORGE H. MONKS, M.D., Secretary.

J. COLLINS WARREN, M.D., Chairman.

#### A REPORT OF FOUR CASES OF EXCISION OF THE HIP PERFORMED IN 1882.<sup>1</sup>

BY ROYAL WHITMAN, M.D.,  
Orthopedic Surgeon to the Boston Dispensary.

HAVING an opportunity to show what may be considered a successful result after excision of the hip, it was thought that a presentation of the results in three other cases, performed at about the same time, might prove instructive.

These four excisions were performed at the Boston City Hospital during my service as Intern. At that time, being interested in the comparative merits of the operation, I was surprised to find how difficult it was, in this vicinity, at least, to discover patients on whom the operation had been performed, or even to obtain any definite information from surgeons who had performed the operation, as to whether it had proved successful or otherwise. This fact has induced me to report these final results in this little group of four cases, comprising my personal experience with the operation.

CASE I. A boy, four years of age, entered the Hospital February 17, 1882, with a history of pain in the right hip, and slowly-increasing lameness of six months' duration. Examination showed muscular spasm, limitation of motion, tilting of the pelvis, pain and grating on movement of the right hip, and a fluctuating swelling, extending from the great trochanter

<sup>4</sup> Brit. Med. and Surg. Journal, September 13, 1885.

<sup>5</sup> Lancet, May 26, 1883.

<sup>6</sup> The writer has used large rubber tubing in preference to the rubber band described by Mr. Lloyd. If pulled tight the pad is not necessary. It has also proved convenient to use the tubing long enough that the ends may be brought (after the tubing is fastened on the affected side) to the well side and then fastened.

<sup>1</sup> Read at a meeting of the Surgical Section of the Suffolk District Medical Society, held December 1st, 1886.

to the middle of the thigh. The child was placed in bed, and a double T-splint, with extension, applied. This treatment relieved the pain, but as no improvement followed, on March 10th Dr. W. H. Thorndike excised the hip. Considerable pus was evacuated, and the head of the bone, which was softened and eroded, was removed just below the great trochanter. The acetabulum was not diseased. The wound was dressed antiseptically, the patient placed upon a frame, extension and fixation of the limb applied, and an immediate improvement in general condition followed. Two months later the wound had closed, with the exception of two small sinuses leading down to the acetabulum.

On June 3d symptoms of an acute attack appeared, consisting of headache, constipation, vomiting, slow pulse, and stupor, followed by coma, dilated pupils, and convulsions, with death four days later. No examination was allowed, but, from the symptoms, a diagnosis of tubercular meningitis was made.

CASE II. The patient, a boy ten years of age, entered the Hospital February 18, 1882, with a history of slight lameness of the left leg, and stiffness in the hip-joint for more than a year, with, during the past three months, increasing pain and swelling of the leg. Examination showed the left leg flexed upon the abdomen, much limitation of motion, grating in the joint, and a large, fluctuating swelling, extending from the trochanter to the middle of the outer aspect of the thigh. Under ether, the leg was extended, and a T-splint and extension applied. The abscess, however, slowly increased in size, and two weeks later a spontaneous opening formed. The patient now grew rapidly worse, and on March 4th Dr. Thorndike excised the head of the femur, just below the great trochanter. This was found to be extensively diseased, as was the acetabulum, the greater part of which was also removed. The patient died thirty-six hours later, apparently from shock.

CASE III. A boy, seven years of age, entered the Hospital January 14, 1882, with a history of a fall three weeks before, followed by pain in the left hip and knee. It is probable, however, that the symptoms in this case were of much longer duration.

Examination showed the leg flexed upon the abdomen, pain on motion, and muscular spasm. Under ether, the leg was extended, a double T-splint, with extension, applied. This treatment relieved the pain, but two months later an ovoid, fluctuating swelling appeared on the groin, which slowly increased in size. This was incised, and the joint found to be so extensively diseased that an excision was deemed advisable. On June 13th Dr. C. D. Homans performed the operation, removing the head of the bone above the great trochanter. The after-treatment was similar to that of the preceding cases.

An immediate improvement in the general condition of the patient followed; five months later the wound had nearly closed, there was but slight discharge from two small sinuses, the patient up and about on high shoe and crutches, with a moderate amount of motion in the joint. One month later he was discharged. Six months afterwards I saw him. He was then walking about on crutches; the leg was firmly ankylosed, and from one and one-half to two inches shorter than the other. There was also considerable suppuration from two sinuses leading down to the acetabulum. The boy's surroundings were very bad, and his general

condition poor. In July, 1884, two years after the operation, he died. The resident physician at the New England Hospital, where the patient remained for a few weeks during the latter part of the time, informs me that there was then a large, fluctuating tumor over the lower part of the back, a freely-discharging sinus over the site of the former operation, and that the urine showed evidence of disease. His mother says that shortly before his death "he was all swelled up." I, therefore, infer the cause of death to have been exhaustion from long-continued suppuration, with amyloid degeneration of the internal organs.

CASE IV. The patient, a boy four years of age, first entered the Hospital October 4, 1878, with a history of a fall six months before, which was followed by gradually-increasing pain and disability. Examination showed well-marked disease of the right hip. He was treated by rest and extension, and he left the Hospital six months later, wearing a Sayre's short splint. October 20, 1880, he was admitted to the Hospital, the symptoms being about the same as before, and remained two months.

On October 11, 1881, he again entered the Hospital, with a history of injury, followed by acute symptoms. The leg was found to be flexed almost at right angles to the body. This was extended under ether, and after three months of rest in bed, with extension, he was discharged on crutches, wearing a high shoe.

On January 31, 1882, he entered the Hospital for the fourth time, with the usual history. Examination showed pain on motion, moderate flexion and fixation of the joint, with a hard, elastic, semi-fluctuating swelling in the groin. A T-splint, with extension, was applied, but as there had been no improvement at the end of three months, Dr. Homans decided to excise the hip. This was done on April 10th, 1882. The head of the bone was removed two inches below the great trochanter, and the acetabulum, which was roughened, was thoroughly scraped. Careful general and special treatment resulted in closure of the wound, and the patient was discharged February 5, 1883, well, and has since remained in perfect health.

Thus, of these four patients the first died of tubercular meningitis; possibly the operation might have increased the danger of tuberculous infection, but of this it is impossible to say.

The second died from shock, though in this case the disease was so extensive and the condition of the patient so bad that probably the operation simply hastened his death by a few months.

The third died from the effect of long-continued suppuration. The operation was a failure, but it is improbable that death was hastened by it.

The fourth I show. The leg on the operated side is considerably smaller than the other. There is three and one-half inches shortening, and almost complete ankylosis, the limb being held in a position slightly adducted and flexed. This might be remedied, by making the leg slightly longer, but the patient objects to further interference. With a high shoe he walks long distances without especial fatigue and without artificial support, though with a decided limp.

This result would not be considered a brilliant one by those who expect free motion after every case of excision; but practically, if the two periods of four years before and after the operation be compared, the first of more or less pain and disability, interspersed with fifteen months' confinement in a hospital, and

the second of continuous good health, the operation may, I think, in this case be classed as a success.

In regard to the merits of the operation itself, the weight of surgical opinion in view of the very satisfactory results obtained by careful and continued conservative treatment, is that the operation should be limited to those cases in which it is either impossible to carry out such treatment, or where conservative treatment carefully carried out is unavailing. In other words, to consider excision of the hip as a life-saving operation. If then, the operation is, as a rule, to be reserved to those cases where conservative treatment has failed—cases of extensive destruction of bone and soft parts, in such cases any hope of preserving useful motion in such joints should be discarded, and the operation conducted in the hope of relieving the patient, exhausted by pain and long-continued suppuration, as speedily as possible.<sup>1</sup>

A large incision should be made and the bone removed well down below the trochanter; all the diseased soft parts, including the periosteum, and the capsule, should be removed, all sinuses thoroughly scraped; the extremity of the femur placed as nearly as possible in apposition with the acetabulum, the soft parts united by deep sutures placed in layers to close the cavity and prevent retention of secretions, the limb placed on an immovable apparatus; dry non-irritating antiseptic dressings, preferably in connection with iodoform, applied, thus hoping to secure rapid closure of the wound and ankylosis. But, as in these cases of long standing it can scarcely be hoped to remove, at the first operation, all action or latent disease, if healing does not result, the suppurating wound should again and again be explored in the hope of final success. The ordinary procedure is, or has been, to treat both recent and advanced cases alike, simply removing the head of the femur through a small incision, leaving the periosteum with the attached muscles in the hope of obtaining a movable joint. If healing does not result, nothing more is attempted. I think this point has not been sufficiently insisted upon: that the operation having been undertaken with the object of relieving patients from the danger of a chronic exhausting disease, they should not be sent back to their wretched homes with unhealed suppurating wounds; but if persistent attempts to effect a cure by excision have failed, amputation should be undertaken as a last resort.

—Sergeant Boston Corbett, the man who shot J. Wilkes Booth, has become insane. His maniacal outbreak was characterized by his arming himself with a pair of revolvers, and dispersing the officers, and finally, the members of the Kansas Legislature, which body he served in the capacity of assistant-door-keeper.

<sup>1</sup>De la Coxalgie, par le Prof. Ollier. Congrès français de Chirurgie, 1885.

<sup>2</sup>As my experience increases and the longer I watch patients on whom I have performed the operation of excision of the hip, the less I am satisfied with movable joints. There are, of course, advantages in being able to bend the thigh and seat one's self, but it is of much greater importance to be able to walk all day, not to be protected from the danger of recurrence of disease by a good heavy union. In those who preserve movable joints, the extremity of the femur is generally loosely attached, it always slips up more or less on the pelvis or rather the pelvis slips down on it, the weight of the body stretching the fibrous bands so that the pelvis is as it were suspended on the femur. We must consider not the immediate but the final results; and I repeat among my patients who work at laborious occupations, those whose femurs are ankylosed with the pelvis, are much better satisfied than those who preserve movable joints.<sup>2</sup>

## REPORT ON MENTAL DISEASE.

BY HENRY R. STEEDMAN, M.D.

### EPILEPSY WITHOUT UNCONSCIOUSNESS.

BALL,<sup>1</sup> in introducing a carefully-observed case of true epilepsy without unconsciousness, criticises as too absolute the definition of that malady which makes unconsciousness a necessary accompaniment of all attacks, and contends that this accepted formula, like all absolute rules, has its exceptions. Somnambulism, for example, is nearly always attended by obliteration of consciousness during the sleep-walking stage, but it is equally certain that some sleep-walkers do retain the recollection of what has happened during that interval; so it is with epilepsy. In the immense majority of cases consciousness is abolished during the attack, but in a very few exceptional instances this is not so. A case reported by Major is quoted by Bucknill and Tuke, and several similar cases have been met with by others. The medico-legal importance of such cases is readily appreciated. A man commits a crime while in the epileptic state, and is held to be irresponsible; but if we admit the accepted definition of epilepsy, he cannot be considered an epileptic if he retains the slightest recollection of what has happened during the attack.

The case in point is that of a married woman of thirty-two years. Her father, an habitual drunkard, died at the age of fifty-two. Several brothers and sisters died, when young, of convulsions. The patient began to have convulsions for a time when seven years old, and soon after her marriage, at the age of twenty-three, during pregnancy, she had attacks of an epileptiform nature. For seven years afterwards, during which time she has been under Dr. Ball's observation, she has had seizures, at variable intervals, of three different kinds. First, she has, but very rarely, genuine epileptic convulsions (grand mal), ushered in by a cry, facial pallor, etc., and attended by foaming at the mouth, and the characteristic convulsive movements of all the limbs of the tonic and clonic type. One of these attacks was witnessed by Dr. Ball. Somewhat oftener she has attacks of epileptic vertigo, "absences," of short duration (petit mal). But by far the most frequent seizures are characterized by delirious excitement. She gives a scream, turns pale, and cries out, "Oh! God leave me!" jumps out of bed, and runs about the room, indulging in all sorts of absurd conduct, and sometimes even violently attacking others. It is only in attacks of the last variety that she retains recollection of what has happened, and it has only been during the past year that this peculiarity has been manifested.

In one of these seizures (November 25, 1885) she said to her husband, "I am going to bite you," and then, putting her threat into execution, she bit him and spat in his face. On coming to herself, she remembered the occurrence perfectly, and said to him, "Didn't I say I was going to bite you, and didn't I really do so, and spit in your face?"

In another of these attacks, which occurred at night, she left her bed and went to her ironing-table. She also tried to find her needles, thread, and the rest of her sewing implements. The next morning, on awaking, she remembered this circumstance very clearly,

<sup>1</sup>L'Encephale for July and August, 1886.

<sup>2</sup>The Neurological Review for November, 1886.

and told her mother of it, who expressed surprise at this unexpected return of her memory.

On January 11th, 1886, in the midst of an attack, she seized an ink-stand and threw it at her mother's head. Several minutes later, when the attack had passed, she recalled the whole affair unaided, and could not apologize enough for what she had done. Her memory returns in this way, but seldom, however, and in the immense majority of her seizures; all recollection of what has passed is completely effaced.

Such instances as these seem to show conclusively that amnesia is not a distinctive mark of epilepsy. In fact, it is very probable that if attention were generally directed to this point, the number of reported cases of the kind would be greatly augmented.

Bannister,<sup>2</sup> in a recent article on "Consciousness in Epilepsy," treats the subject quite exhaustively, and comes to the following conclusions:

(1) That the epileptic discharge may, in rare instances, take place in motor regions of the cerebrum, and not involve at all, or to any extent, those parts concerned in psychic functions so far as to seriously affect or abolish consciousness, meaning by that term a vivid sense of being and knowledge of one's thoughts and actions, continuous with that in the normal condition.

(2) That in the so-called automatic epileptic conditions there may be a state of double consciousness, as it may be termed, in which it cannot always be said that the mental functions in the abnormal condition is less perfect and complete than in the normal state.

(3) The post or pre-epileptic outbreaks of violence, the so-called epileptic mania, are not necessarily attended with loss of consciousness, but may be, in some cases, simply manifestations of extreme morbid bodily and mental irritability, with loss of self-control, but with no more impairment of consciousness than might be caused by similar emotional disturbance under other conditions.

(4) That there may be a true automatism in epileptics, not attended with any apparent loss of consciousness, and due, possibly, to the rapidity of some psychic reflexes exceeding the limits of the reaction time necessary for their conscious recognition.

(5) That the definition of epilepsy which makes loss of consciousness an essential character, is an arbitrary one, not supported on pathological or clinical grounds, either in the ordinary convulsive phase of the disease, or in its psychic manifestations.

#### CRANIAL EXAMINATIONS IN THE INSANE.

M. Verga,<sup>3</sup> a prominent Italian authority on insanity, thinks that, in the present state of our knowledge, little is to be gained by examining the crania of the insane. We may, to be sure, feel through the scalp certain coarse lesions of the skull of more or less recent origin, projections, depressions, and exostoses, which may possibly reveal the traumatic or syphilitic nature of the mental impairment, but that is all. Lasegue's views of the relation between epilepsy and plagiocephalus and corresponding facial asymmetry are often contradictory to facts. M. Luy's opinions regarding a cranial prominence corresponding to the paracentral lobule are far from being proved. The indications found by measurements of the skull are only of value in extreme cases. The assistance to

be gained by cranial percussion, auscultation, and thermometry, he finds to be next to nothing.

#### PARANOIA.

Kierman<sup>4</sup> quotes Spitzka's graphic description of monomania, and notes his abandonment of this term for that of paranoia. The latter was introduced by Heinrich, and first applied to this class of cases by Kahlbaum, and is now in use in Italy, Germany and the United States. It has been variously designated imbecility of the first grade, *mania systematisée*, *pazzia sistematizzata primitiva*, *megomania*, *vesania*, *wahnsinn*, chronic mania, insane temperament (congenital type), *folie héréditaire* (hereditary type), primary monomania, primary paranoia, dementia monomania, *primäre Verrücktheit*, monomania, protopathic insanity and *primärforygethet*. Several cases of paranoia are reported by the writer, and all answer to the description of chronic delusional mania of some English and American authors. He considers this psychosis likely to contribute a considerable part to the insane population, both directly and by its victim leaving descendants. About ten per cent. of the population admitted to the German and Italian insane hospitals are victims of this psychosis, while about seven per cent. of the resident population are also paranoiacs. In American asylums one-third of the 921 tabulated were Americans. These furnished 49 paranoiacs. The remaining 606 furnished 99 paranoiacs, or more than double the proportion of the paranoiacs resident in German and Italian asylums. From these and further researches conclusions are reached as follows:

*First:* The character of the government and institutions of the United States is such as to attract thither the paranoiacs, since they are fertile project-makers, and see in the United States a great field for all such projects.

*Second:* In consequence of the peculiarly unsettled condition of civilization in many parts of the United States, these paranoiacs readily pass muster, even become leaders in the community, and often rear families, their insanity never being discovered.

*Third:* In all probability at least one-seventh of the insane entering the United States are paranoiacs, whose insanity is so sufficiently concealed as to enable them to pass as sane until long after their arrival: to marry and leave a neurotic inheritance to their descendants.

*Finally:* Until the ancestry and history of immigrants into the United States is rigidly traced, and the insane excluded, insanity will increase among the foreign-born population of the United States and their immediate descendants in a disproportionate ratio.

#### GRANULATIONS OF THE EPENDYMA OF THE VENTRICLES OF THE BRAIN.

Brunet<sup>5</sup> notes the fact that these granulations are more abundant by far upon the lateral portions of the antero-inferior wall of the fourth ventricle than elsewhere. All authors attach the greatest importance to the granulations of the fourth ventricle because of the physiological functions of the medulla oblongata, and their presence in this ventricle is one of the chief reasons given for considering general paralysis as a periencephalitis rather than a pericerebritis.

Lays, although far from agreeing that this lesion is peculiar to general paralysis, has only very rarely

<sup>2</sup> Archives Italienne per le Malatie Nervose, March, 1886; and L'Eucéphale for September and October, 1886.

<sup>4</sup>The Neurological Review, Vol. 1, No. 1. May, 1886.

<sup>5</sup> Annales Psychologiques, March, 1886.

encountered it in any other disorder. Magnan and Mercejewski, who have made a special study of these granulations of the ependyma of the ventricles of the brain, consider them the most important lesions of general paralysis. Brunet, however, believes that their importance has been greatly overestimated, especially as regards the granulations of the fourth ventricle. He has often found them present in disorders other than general paralysis, and in that disease itself they are by no means constant appearances. They are found in nearly every form of mental disorder, while they are usually absent in rapid cases of general paralysis in which the pia mater, although very adherent to the cortex, is somewhat thickened and the convolutions have not had time to become appreciably atrophied. They are well-marked in hydrocephalus, chronic mania of long duration with dementia, and in epileptic dementia. Speaking generally, we may say that they bear a certain relation to thickening and opalescence of the pia and arachnoid and to atrophy of brain and sub-arachnoid and intra-ventricular effusion. If they are more numerous and prominent in general paralysis, it is because in that disease, more generally than in any other, are combined these three changes. Plaxton's view, that these granulations are post-mortem changes, is also worthy of consideration. The writer concludes that as: 1st. These granulations are neither constant in, nor peculiar to, general paralysis; 2d. Sclerosis of the parts composing the isthmus of the encephalon, is only an accidental and terminal lesion of that affection; 3d. The cerebellum is intact, as M. Baillayn has just shown, and as the writer himself has observed—that therefore the name *pericerebritis* is better adapted to general paralysis than that of *periencephalitis*.

#### THE USE OF SEDATIVES IN INSANITY.

Writing of the use of sedatives in insanity, Dr. Savage\* says that though asylum physicians erred very naturally in using them occasionally as restraints, but more freely as means of control, the general practitioner has done so much more, and will continue so to act and err so long as public feeling is so strong against asylum treatment. He protests against the use of these drugs as a rule. The patients at Bethlehem (where recent cases are treated almost exclusively), are treated almost without the use of the common sedatives—bromides and morphine, chloral and opium, being very rarely used indeed. The treatment by drugs differs according as the patient has organic or functional brain disorder. In general paralytics severe measures may be rapidly destructive. The early and excited general paralytic is very often easily affected by alcohol, so that a glass of wine will often make such a one appear to be drunk; and in the same way a slight opiate or a small dose of hyoscyamine may produce serious effects. In advanced senile atrophy the same effects are observed. In true brain decay, it is better to avoid any of the stronger sedatives, and rather to use small and repeated doses of the milder ones. As in the latter cases one must be careful not to begin with too large doses, so in functional mental disorders we must sometimes not be afraid to give large doses.

Bromide of potassium is seldom given alone in cases of insanity, and it is rare to find a violent case of mania benefitted by the use of this drug or by chloral

or by their combined employment. As to chloral, Dr. Savage finds it hard to be just, as he has seen so many disastrous results from its abuse that it is to be feared that more harm than good has followed its introduction. It is the first thing now taken by the man of intellect who is overworking, and is eagerly sought by the nervous, fashionable lady; it is a temporary prop to the drunkard, and to the doctor in many cases it is the means of keeping a troublesome patient quiet. The chief objection to it is that it soon establishes a habit and almost always disturbs digestion. Patients are constantly admitted to Bethlehem who at once call for their night draught. It is withheld, and after perhaps three terrible days of suffering, sleep comes, and with it the delusions which have been almost embalmed by the chloral, slowly disappear. Delusions of months may thus vanish in a week. Though there is danger, aid too may be got from it; and though not trusting it fully, Dr. Savage thinks it will often prevent death in cases of acute delirious mania, if given with abundance of food and stimulants. It is also of great service in cases of epileptic furor.

#### THE "INCREASE" OF INSANITY.

Dr. D. Hack Tuke, in an elaborate statistical study on alleged increase of insanity, dwells upon the importance of ascertaining, as the only sound test of such increase, the number of *occurring* cases of mental disorder in proportion to the population during the periods of time we desire to compare. Among a number of interesting results, he finds that *so far as statistics teach us anything*, they fail to show the slightest increase in occurring insanity in England and Wales since January, 1878, when we apply the above and only reliable test. In fact, the tendency has been, on the whole, as shown in one of his tables, toward a decrease in the admissions to asylums, of patients laboring under first attacks. The question therefore arises whether the present age may not wage successful war against the causes of insanity in one direction, but at the same time favor their growth in another? Take, for instance, general paralysis. It does not admit of reasonable doubt that it has increased of late years, after abundant allowance is made for its better recognition; but if the frequency of insanity, as a whole, has undergone little change, it would look as if some form of insanity other than general paralysis, had declined. Dr. Tuke also thinks it quite possible that without any actual increase of the insanity which is actually certified, there may be considerably more "borderland" insanity and more of that instability of brain which scarcely reaches even this level. He inclines to the belief that more, considerably more, young people of both sexes, break down mentally than there did formerly, but cannot prove it. He should be surprised, he says, if the tables of age on admission into asylums do not show, when they extend over a sufficiently long period, that more patients are admitted under twenty now, than formerly. Dr. Savage, of the Bethlehem Asylum, holds a similar opinion.

— Mme. Trélat, the widow of the late Dr. Trélat, governor of the Salpêtrière Hospital, has recently bequeathed \$40,000 for the benefit of the Paris poor. The rest of her large fortune was left for technical schools for girls, and other public institutions.

\* Practitioner for September, 1886.



them a folded blanket is placed. The feet can rest in the hollows at the top of the foot-pieces or be placed against them and there tied, in case either is used, by passing a bandage over them through the holes *a a*. The catch *c* allows the foot-pieces to be adjusted at any angle. When the patient lies upon them they do not slip in the least, and may be pushed in to shorten or brought out to lengthen, at pleasure. The legs may also be separated more or less at the will of the operator, and retain their position in the most perfect manner. By tying the pieces at *b b* we have a very good support for the legs when the patient is in Sims' position. They can be easily carried to the patient's house, and a good operating table made by placing them on such a one as can be found in any house.

### Reports of Societies.

#### SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

G. H. MONKS, M.D., SECRETARY.

MEETING December 1st, 1886, Dr. J. C. WARREN in the chair.

Dr. JOHN HOMANS reported

A CASE OF DUPUTYREN'S CONTRACTION OF THE PALMAR FASCIA SUCCESSFULLY TREATED AFTER THE METHOD OF MR. ADAMS,<sup>1</sup>

and exhibited the patient. He also demonstrated the characteristic deformity on a gentleman kindly brought to the meeting by Dr. Cleaves, of Medford.

Dr. J. C. WARREN remarked, in regard to the etiology of this disease, that it had been regarded as traumatic in its origin, as syphilitic, and also as indicating a gouty diathesis. An examination, by Mr. Noble Smith, of seven hundred elderly inmates of English workhouses, showed seventy to have this malady. He was unable to discover any general condition of health which might have given rise to the disease, although the larger number of cases in which both hands were affected seemed to indicate something more than a local cause. In most cases a contraction of the palmaris longus muscle was observed, pointing to some nerve-irritation. In one case a wound of the fascia had produced a condition identical with the disease, but in many cases there was no history of injury or pressure which might have served as a cause for the disease. Mr. James Hardie recommends longitudinal incisions to expose the contracted bands, which may then be divided and partially dissected out. In two cases there were reports of cure by accidental rupture of the band, the fingers remaining free from subsequent contraction.

Dr. HOMANS also spoke of the possibility of rupture of the contracted bands, and quoted one of Mr. Adams's cases, where they were torn from the palm by violence.

Dr. F. S. WATSON showed a patient, aged thirty-seven, who was the subject of chronic urethritis of some months' standing, and who had had, for seven years,

A CHRONIC HYDARTHROSIS OF BOTH KNEE-JOINTS.

Previous to the appearance of the joint-affection

<sup>1</sup> See page 177 of the Journal.

the patient had had rheumatic fever, but there was an interval of several weeks after the convalescence before the collection of fluid in the joints began to show itself. This came on gradually, without pain, and has been constant ever since. The patient had applied for treatment, the day before, at Dr. Watson's clinic, and he was shown at the meeting simply for the interest attaching to the long duration of the disease, and the comparatively slight injury to the function of the joints, in spite of the great distension of the capsules, and the long time the effusion had lasted. Though the quantity of fluid in both joints was large, yet the increased mobility from relaxation of the ligaments was but slight, and the patient had been able to pursue his trade as a painter without interruption. He had never received any treatment for the trouble.

Dr. HOMANS, in speaking of the difficulty of radically curing cases of chronic effusion into the knee-joint, alluded to a case of his own in which about two tumblersful of fluid was removed by the trocar, and compression applied. For a time the case was supposed to be cured, but eventually the fluid re-accumulated.

Dr. WARREN spoke favorably of the practice of tapping the joint, and of applying compressed sponges afterwards.

Dr. BLODGETT asked, in reference to the formation of fluid in a joint, if it were not possible that, under certain circumstances, there may be an increased amount of fluid without a pathological process being present; that is, simply by an increased physiological action.

Dr. WARREN said he had often noticed that when there was a pathological collection of fluid in one joint, there was a slight increase in the fluid of the other, as if by sympathy.

Dr. WATSON spoke of the frequency of water-on-the-knee at Milton, a peculiarity which had been often remarked.

The rest of the meeting was devoted to a consideration of the ultimate results following the various forms of treatment for suppurative hip disease.

Dr. ROYAL WHITMAN read

A REPORT OF FOUR CASES OF EXCISION OF THE HIP PERFORMED IN 1882,<sup>2</sup>

and showed one of the patients.

Dr. HOMANS considered that Dr. Whitman's work in investigating and reporting the results of such an operation as excision of the hip some years after it was done, decidedly useful. He also spoke highly of the operation, as being the only available mode of treatment in certain obstinate cases.

Dr. E. W. CUSHING showed an Italian instrument, which was specially designed to make subperiosteal sections of bone, and explained how it could be used in excising a hip-joint.

Dr. CABOT said that he entirely agreed with Dr. Whitman in regarding the operation of excision of the hip as a last resort, to be used only in advanced disease, with the object of saving life when death is threatened by the exhaustion of prolonged suppuration. The cases to be cited by Dr. Lovett show what excellent results the expectant plan of treatment can usually accomplish, and it should always be adopted when possible.

Sometimes, however, in spite of the greatest care,

<sup>2</sup> See page 181 of the Journal.

and the most complete fixation of the joint possible with apparatus, the disease shows a tendency to steadily progress to a fatal termination. It is in such a case that a thorough excision, with provision for good drainage of the joint-cavity, is indicated, and will often bring about an arrest of the disease. Sometimes, too, we see a case in which the pain occasioned by the contact of the diseased surfaces of the joint is so great as to rapidly exhaust the patient's strength, and persists in spite of every effort with fixation and extension-splints. Here we have another clear indication for the operation for removal of the diseased parts.

He said that he should differ from Dr. Whitman in regard to the wisdom of stitching the wound carefully together. In an early excision it may be often possible to remove all of the diseased tissues, and so to get a healing by first intention. In the cases, however, in which the operation is justifiable on account of the severity and extensive character of the disease, it is rarely possible to thoroughly remove the suppurating tuberculous material from all of the pockets about the joint, and this being the case, it seems wiser to leave the joint-cavity open and accessible to applications. After a trial of both plans, he has obtained the best results by leaving the wound entirely open, and packing it lightly with iodoform gauze. After excision, as after removal of any tuberculous bone, it is often necessary to do a second operation where the disease is not entirely checked or shows a tendency to return.

Dr. Cabot called attention to the fact that in the case shown by Dr. Whitman there was a lack of development in the limb below, which could not be ascribed to the effect of the operation. For instance, the foot, which was perfectly normal in shape, was about one-half an inch shorter than the foot on the well leg, and proportionately smaller in all of its dimensions.

He said that he had several times noticed an equally marked lack of development of the foot in cases where the knee was affected with white swelling, and where no operation had been done.

Dr. R. W. LOVETT made some remarks on the

#### RESULTS OF THE CONSERVATIVE TREATMENT OF SUPPURATIVE HIP DISEASE.

He spoke substantially as follows:

The published statistics of this treatment give a rather favorable showing in suppurating cases, where the question of excision would come in; the figures are as follows: Gibney, in 1878, reported 80 cases cured by the purely expectant method, or no treatment at all. 48 of these had abscesses, and of the whole number 73 recovered with useful legs. At the Alexandra Hospital 260 cases of suppurating hip disease were treated by rest and extension, 42 per cent. were cured and 33 died. Dr. Taylor, of New York, traced 93 cases from beginning to end. Of the 24 who had abscesses, 2 died, and 17 fully recovered (14 with movable joints) and the other five were doing well at the time of writing. Cazin had charge of the Hospital at Berck where cases of suppurating hip disease were sent from some of the Paris Hospitals after they had ceased to improve. Of 80 cases received, 55 per cent. were cured, that is, the sinuses closed and joint symptoms ceased, and 12½ per cent. died; they were treated by rest and extension. So that suppurating hip disease is not hopeless by any means, even left largely to itself, as in Gibney's cases.

Dr. Lovett then showed two patients from the Children's Hospital, to illustrate average results in severe suppurative hip disease treated conservatively.

CASE I. Harry L., eleven years old. Entered the Children's Hospital, January, 1878, having had hip-joint disease for four months. He was treated by rest and extension in bed, and by a long extension splint at times. Abscesses began to form in a few months and he became worse. Altogether he had fourteen abscesses, and excision was seriously considered but abandoned. He staid at the Hospital for two years, and has now been without his splint for four or five years. He is now a well-developed boy with a marked limp. He has one inch shortening of his leg, his right thigh is three inches smaller than his left, and he has a certain amount of motion in the joint of a very few degrees. But the limb is in a position of permanent flexion of about thirty degrees, and this, of course, makes the limp so noticeable. He is in the soundest possible health.

CASE II. Henry P., seven and one-half years old, came to the Children's Hospital when he was only a year and a half old, having had the disease for six months. He was treated by extension and a Cabot frame. He had two abscesses, and was extremely sick; the question of excision was seriously considered and abandoned in his case too. He staid at the Hospital nearly two years, and he wore his splint for a few months outside after discharge. He is remarkably rugged and well-developed. One leg is an inch and a half shorter than the other, and what is worse, the thigh is flexed on the pelvis at an angle of nearly forty-five degrees. He wears a high shoe, and is able to walk or run any distance. There is no motion in the joint.

Dr. PARKS spoke of a case of suppurative hip-disease he had known of, to be treated by weight and extension for eight years! The result was a favorable one.

Dr. H. W. CUSHING said that the longest course of treatment he could recall, was in a case at the Children's Hospital. For five years the patient was under observation, during which time the treatment was principally by a high shoe and a crutch. The result was satisfactory. He said, also, that he thought excision did not necessarily prevent subsequent general tuberculosis, and quoted an article by Yale in the "Annals of Surgery" for January, 1886.

The advantages of excision, according to advocates of that method, are that the operation prevents general infection, shortens the treatment, and gives better functional results than the conservative method. The conclusions from Yale's article are that the only indication for excision of the hip is to save life.

It does not save the patient from any dangers except those consequent on long suppuration. Hence it is only indicated where the suppurating process has reached a dangerous point, and cannot be stopped by any less serious operation.

Dr. LOVETT remarked that Caumont, in a series of twenty-six cases, excised about one-half, the others being treated conservatively. More cases died of general tubercular infection after excision than after conservative treatment.

Dr. H. L. BURRELL said that regarding the development of tuberculosis after operative procedures, that he was not sure but that the necessary confinement to bed incurred by an operation might not be a factor in

determining its appearance. He had seen five cases of tubercular meningitis develop shortly after the patient had been placed in bed for joint disease, and he had come to look upon placing a patient in bed with joint trouble as a thing to be avoided where possible.

To guard and protect the joint against any jar by some suitable splint, placing the patient under the best hygienic surroundings, opening abscesses when necessary, in fact, thorough conservatism in all the stages of treatment, he believed gave the best results.

Dr. E. H. BRADFORD showed a patient upon whom he had performed

#### SUBPERIOSTEAL AMPUTATION AT THE HIP-JOINT AFTER HIP DISEASE.<sup>2</sup>

After relating the history of the case and describing the operation, he made the following remarks:

The subject of regeneration of bone after sub-periosteal disarticulation at the hip-joint, was considered of so much importance that a committee was appointed by the London Clinical Society to examine Mr. Shuter's case. The committee was unable to satisfy itself of the presence of bone, but recognized a hard core in the stump.

Dr. Bradford therefore requested, that, since the testimony of more than one observer was desirable in all such cases, an examination be made of the stump by the Chairman and Secretary of the Section, and that a report of the same be appended to the full report of the case.<sup>3</sup>

Dr. CABOT spoke of the great value of the *short stump* after subperiosteal amputation, in enabling the patient to wear an artificial limb. He said that Mr. Shuter, in the report of his case, several years ago, stated that the patient had been able to walk considerable distances (two miles); whereas we know that the old methods of hip amputation left no projection to which an artificial limb could be fitted, and that after the late war the survivors from hip amputations were unable to wear with comfort any prosthetic contrivance whatever.

#### QUARTERLY MEETING OF ESSEX NORTH DISTRICT MEDICAL SOCIETY.

MAURICE D. CLARKE, M.D., CORRESPONDING SECRETARY.

The regular quarterly meeting of the Essex North District Medical Society was held at the Eagle House at Haverhill, Wednesday, January 12th, at noon. There was a large and interested attendance, twenty-six members being present. The President, Dr. E. P. Hurd, of Newburyport, occupied the chair, and the records of the semi-annual meeting were read by the Secretary, Dr. George W. Snow, of Newburyport.

The Secretary announced the death, during the past year, of a member of the Society, Dr. Eugene S. Gates, of Lawrence; and on motion of Dr. Crowell, a committee, consisting of Dr. David Dana and Dr. Augustus Stabler, of Lawrence, and Dr. John Crowell, of Haverhill, was appointed to prepare an appropriate tribute to his memory.

It was voted to hold the annual meeting (which occurs on the first Wednesday in May) at Lawrence; and a committee, consisting of Dr. F. B. Flanders, C. G. Carleton, and C. N. Chamberlain, of Lawrence, was appointed to make the necessary arrangements.

<sup>2</sup> See page 180 of the Journal.

<sup>3</sup> See page 181 of the Journal.

Dr. E. W. BULLOCK, of Haverhill, then read a paper upon

#### A CASE OF SCROTAL TUMOR,

occurring in the practice of a Boston surgeon, and which the writer had had opportunity to see daily. The following is an abstract:

John R., forty years old, presented himself for treatment January 5, 1886. He was by occupation a switchman on the Fitchburg Railroad, and subject to much exposure to wet and cold. His habits were good. He used alcohol to some extent, but not excessively. Up to the present time he had been perfectly well and strong. On close questioning he stated that for five years he had noticed that the left side of his scrotum was gradually increasing in size, but, as he had suffered no discomfort from this, he had done nothing for it. Two days after Christmas he attempted to open a switch in the freight yard, and, as the rails were frozen, was obliged to use considerable force to do so. The switch handle suddenly flew back, and, as he thought, struck him on the scrotum. He had a good deal of pain in that region, followed by faintness and nausea, which passed away after a time. On going to bed that night he noticed that the left side of his scrotum was larger than ever before, and the swelling increased during the night. He kept on with his work until the tumor reached such a size as to interfere with the discharge of his duties, when he presented himself for treatment. He had not suffered any pain since the night of the injury. His bowels were regular, appetite good, he had had no nausea nor vomiting, nor any pain in his bowels. His scrotum was much enlarged, the right testicle could be plainly felt, but the left one could not be located. The tumor was perfectly painless, regular in outline, and larger above than below. It extended up to the inguinal ring, but not apparently through the ring. It imparted a decided sense of fluctuation on palpation, but was not translucent. There was no impulse on coughing, nor could the size be at all reduced by taxis.

After the diagnosis had been very carefully considered, it was finally decided that the weight of evidence was in favor of the contents being fluid in character, probably, sero-hæmorrhagic. So it was decided to puncture the tumor, which was done; but only a very little bloody serous fluid was obtained, and the size of the tumor was not materially diminished. The patient was put to bed, and compression tried for a number of days without any success.

At length it was decided to open the scrotum and ascertain the character of the tumor, so, on the 16th of January, he was etherized and an incision made the entire length of the left side of the scrotum. Dissecting down upon the tumor it was found to consist of a large piece of omentum, which extended by a very small pedicle up through the inguinal ring. The pedicle was ligated, cut and allowed to slip back into the peritoneal cavity. The mass of omentum which was removed was about the size of the average adult brain. The wound was dressed antiseptically, and the patient put to bed again. For two days he did nicely, but on the third, for some unknown cause, the temperature rapidly rose, and decided symptoms of septicæmia developed, the wound assuming a very unhealthy condition. He was freely stimulated, quinine given, and the scrotum poulticed. Several abscesses formed in

the scrotum which were opened. On the seventh day after the operation, the temperature fell, and from this time the patient convalesced steadily until he was discharged cured.

The principal features of interest in the case, were the obscurity of the symptoms, and the freedom from constitutional disturbance, which one would naturally expect to follow a hernia of such a size.

DR. MAURICE D. CLARKE, of Haverhill, then read a paper upon

#### HOUSE DRAINAGE.

Whatever conflicting views, he said, might be held by physicians as to so-called filth diseases and as to the relation between sewer-gas and disease, they were as one as to the need of the best appliances for drainage, since no one would take the chances of an open sewer in his bedroom. The multiplication of plumbing devices would imply multiplicity of belief as to drainage, but, in fact, sanitary experts are nearly agreed as to the principle and dispute mainly over matters of detail. As to the deplorable lack of knowledge and interest on the part of the public, the reader cited a case from his own experience. He attended a rapidly fatal case of diphtheria in one of the "fine" houses of the city. The plumbing was examined after the child was dead, and there were found, besides a nearly complete absence of traps and of ventilating pipes, a leaky soil pipe and an open drain in the cellar, which had become choked up and overflowed. Of all this the owner was entirely ignorant.

Certain things in regard to house drainage may justly be insisted on. One is, that the main source (or an important source) of contamination being the house-pipes rather than the street-sewers, there ought to be a trap under every fixture, and as close to it as possible, to reduce to a minimum the unprotected waste-way. Another thing is the necessity for a ventilated soil-pipe, to dilute with fresh air the gas that must arise in all pipes where organic matter is deposited and putrefaction is possible. These two things constitute a most important reform.

With these, one would have reached far toward safety if one could rely on traps for farther protection. Which trap is the best is one that each must determine for himself. The range for choice is wide, and, perhaps, choice is still a matter of some difficulty. The best trap, however, is, other things being equal, the simplest, like other appliances. And the simplest trap, the S-trap with a water-seal, would be sufficient, were it not for certain things that tend to destroy its seal, among which are siphonage, back-pressure, etc., which were well explained by Mr. Putnam, in a lecture before one of the Boston societies last year, a report of which appeared in the *Medical and Surgical Journal*. Siphonage might be obviated by ventilating each trap, but this is likely to destroy the water-seal by evaporation. So-called pot-traps have been devised, but these, like the mechanical traps, easily become clogged. So that, unless one of the new traps, Putnam's for example, proves worthy after full trial, it requires a good deal of judgment to select one with the least faults.

As to water-closets, the writer awarded the old-fashioned pan-closet its appropriate condemnation, any of the newer type of hopper-closets being far preferable. With well-trapped fixtures, a ventilated soil-pipe, and a good water-closet, a man is tolerably well

off. There are, however, other matters worthy of mention. The common set-bowl, with plug, strainer, chain, and overflow-pipe, and the bath-tube equipped with like machinery, are both filthy. Waste-pipes and traps are often too large. Kitchen traps suffer from accumulation of grease. The recent maxim that plumbing should all be in sight or easily visible, was referred to with approval. "In conclusion," said the reader, "it is not to be forgotten that plumbing needs constant supervision and care: the best there is cannot with safety be left to itself. Wash-bowls, bathtubs, water-closets, must be washed and scrubbed like other utensils; soil-pipes watched; traps periodically examined; and the lesson constantly insisted on, to mistress and maid, that health demands the cleanliness which is next to godliness, and which is entirely independent of traps and plumbers."

The paper was followed by an animated discussion, participated in by nearly all the members present, after which the Society sat down to an excellent dinner. Succeeding this, the subject of puerperal eclampsia was discussed, after which the meeting was adjourned.

#### THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, January 6, 1886. The annual

##### ELECTION OF OFFICERS

was held, and resulted as follows: President, A. Jacobi; Vice-President, William H. Draper; Treasurer, William F. Cushman; Member of the Council, Everetts Herrick; Member of the Committee on Admissions, H. E. Crampton; Member of the Committee on Library, F. P. Kinnicutt.

DR. L. EMMET HOLT read a paper on

#### THE ANTISEPTIC TREATMENT OF SUMMER DIARRHŒA.

In the outset, he wished it to be understood that other methods of treatment than the use of drugs were not ignored by him, though, unfortunately, in the class which suffered the most from this form of disease, it was often impossible to secure proper hygienic conditions, which were so essential to the welfare of the patient. With the exception of instances of pure cholera infantum, the cases of summer diarrhœa, in Dr. Holt's opinion, were all of dyspeptic character, and were primarily due to fermentation or putrefaction in the intestinal tract. Among the factors entering into the causation of the trouble, he mentioned heat, improper feeding, and bad hygienic surroundings. The affection was evidently not due to heat alone, or else we should find that the greatest mortality was among infants under six months of age, which was not the case. During the first six months a much larger proportion of infants were wet-nursed than at a later period, and it was after this age that the greatest mortality from summer diarrhœa was noted.

In treating of the influence of heat, he spoke of its effect upon the food, as well as upon the child, and referred to an instance at the New York Infant Asylum, in which no less than twenty-three children became affected with diarrhœa in a single day, from the use of tainted milk. In tenement-houses, all the conditions were especially favorable to the contamination of this article of food, and it was remarkable that more children did not suffer from this cause than was

actually the case. In this connection, he spoke of the development of poisonous ptomaines from food, and alluded particularly to the investigations of Professor Vaughan, of the Michigan State Board of Health, in regard to the principle which he has designated as tyrotoxin. Bruntton's researches had also, he thought, furnished the solution of many hitherto insoluble problems. Cerebral symptoms had been generally supposed to be due to the sudden stoppage of the diarrhoea. Huchard had shown, however, that poisonous ptomaines were involved from human faeces in conditions of health, and this was the case to a much larger extent in disease.

In summer diarrhoea, Dr. Holt went on to say, the inflammatory changes were almost entirely confined to the large intestine. A specific microbe bearing a causative relation to the affection had not been as yet demonstrated, though numerous bacteria, of various kinds, were always found in connection with it. The indications for treatment were as follows: (1) Clear out the bowels; (2) stop decomposition; (3) restore healthy action to the bowels; (4) treat the consequential lesions. In the first place, it was necessary to clear out the bowels, for the same reason that the surgeon thoroughly cleanses a wound before applying his antiseptics. As a rule, Dr. Holt said he began his treatment with a cathartic, in order to remove the altered secretions; and if the stomach was not very irritable, there was nothing which, in his opinion, was to be compared to castor oil for this purpose. If the stomach were irritable, he was in the habit of using large injections of water by means of a fountain-syringe. By experiment, he found that it took about a pint of fluid to reach the ilio-cæcal valve, and, at least, this quantity should be used. In many cases the castor oil was all the medicine that was required, as a suitable dietetic and hygienic regimen would do the rest. In cases in which the passages, consisting of pure serum, were odorless, and alkaline in reaction, no preliminary cathartics were required.

In order to stop decomposition and restore healthy action in the bowels, the most efficient agent that he had found was the salicylate of sodium. If there was much vomiting, it was better to withhold food altogether from ten to twenty-four hours, employing carbonic acid, water, or thin barley-water, for allaying thirst. In children under two years of age no milk whatever should be allowed, though peptonized milk was much less likely to do harm than either condensed or ordinary cow's milk. He had known many relapses to be brought on by the use of milk.

The treatment of the consequential lesions was the fourth point considered. This consisted in (1) appropriate dietetic treatment; (2) the continuation of the antiseptic; and (3) the washing out of the whole large intestine every day with pure water, or with a weak antiseptic or astringent solution. The medicinal agents which he preferred for these injections were benzoate of soda and nitrate of silver. It was a fact, he said, that all the drugs which had formerly proved of service in the treatment of summer diarrhoea, with the exception of opium (in regard to which there had been much discussion), were of a more or less antiseptic nature.

Dr. Holt then proceeded to give a *résumé* of the history of the use of antiseptic remedies proper in this affection, from the time when Mays first employed creosote, in 1846. As long ago as 1853, Matthison

had reported much success from the use of salicin, and in 1858 S. W. Smith published, in the *British Medical Journal*, his successful experience with willow charcoal. In 1879 Kilner used salicylate of bismuth and calcium, and in 1880, Hutchins, of Brooklyn, reported good results from the use of salicylate of calcium alone. Segur, of Brooklyn, also met with much success in the treatment of the diarrhoea of phthisis with salicylates. In 1886 Braithwaite recommended the use of salicylate of iron, which he had found very efficient. Naphthaline had been highly lauded by Falkenberg and other writers, and bichloride of mercury had also been recommended by Ringer and others.

Even the most recent text-books on diseases of children, Dr. Holt went on to say, advocated practically the same treatment of summer diarrhoea that was in vogue fifty years ago. In order to find out what was the present practice in New York institutions, he wrote to the physicians of fourteen of these, including the Nursery and Child's Hospital, the Foundling Asylum, St. Mary's Hospital for Children, the Demilt Dispensary, and a number of other prominent hospitals and dispensaries, in which upwards of 40,000 children are treated annually—25,000 for diarrhoeal diseases. He found, among other facts, that opium was used in all, and bismuth in all. Castor oil, as a preliminary medication, was used in six; and castor oil emulsion, with equal parts of the oil and paregoric, in three. Chalk-mixture, in combination with paregoric and astringents, was used in several, calomel in three, ipecac in three, pepsin in one, iodoform in one, morphia and atropia, hypodermically, in one, and astringent injections in three.

Dr. Holt said that, in his own experience, he had found that with the use of opium, bismuth, and astringents, fifty per cent. of cases were cured, and seven per cent. died. A year ago last summer he first commenced the use of salicylate of sodium. In about two-thirds of the cases in which he had employed it he gave castor oil as a preliminary to the treatment. In a few cases, where there was great nervous irritability, he employed Dover's powder, simply for the purpose of controlling this. Out of eighty-one cases treated with the salicylate, sixty were cured, fourteen improved, six not improved, and one died. The results of all his cases were as follows: cured, eighty four per cent.; died, one per cent.

Of 44 cases in which he had employed naphthaline, 67 per cent. were cured, 15 per cent. were improved, 13 per cent. were not improved, and 1 per cent. died. In 27 cases treated with resorcin, 22 per cent. remained unimproved, and it soon became evident to him that this agent was not nearly so efficient as either salicylate of soda or naphthaline. He had also used bichloride of mercury in 28 cases, but had not found it as successful as the remedies named. The comparative results of treatment of these different remedies were, then, as follows: Cured by opium, bismuth, and astringents, 50 per cent.; cured by salicylate of sodium, 84 per cent.; and by naphthaline, 67 per cent.; cured by resorcin, 55 per cent.

After relating an illustrative case in which the salicylate of sodium, administered after a preliminary dose of castor oil, had effected a cure in an apparently hopeless case, Dr. Holt stated that he was in the habit of giving the salicylate in doses of from one to three grains, every two hours, and in the form of an aqueous solution which could be taken with the food

or drink. Instead of producing vomiting, he had found that it often allayed irritability of the stomach. Naphthaline could be given in doses of from half a grain to five grains, and resorcin in doses of from half a grain to two grains. Bichloride of mercury, which was given in doses of from  $\frac{1}{16}$  to  $\frac{1}{8}$  of a grain, was sometimes apt to produce vomiting.

The putrefactive changes taking place in the food, which was the immediate cause of summer diarrhoea, often began outside of the body, before it was eaten; and diarrhoeal discharges at the outset, at least, were to be regarded as salutary. Dr. Holt mentioned that he did not undervalue the efficacy of opium in other forms of diarrhoea. In conclusion, he said that the use of evacuants constituted an essential part of the antiseptic treatment; and, as the result of his experience, expressed a preference for the salicylate of sodium after a cathartic had been employed. The antiseptic treatment he regarded as especially valuable because it removed the cause of the trouble in the intestinal canal, and did not simply combat its effects.

DR. WILCOX related his experience with naphthaline, in the treatment of diarrhoea; stating that he had employed it in thirty-two cases, nearly all of which, however, were in adults. In his hands it had proved so efficient that he had come to regard it of the same value in diarrhoea as mercury in syphilis, or quinine in malarial trouble. In order to secure its full effect the patient should take at least sixty-grains a day, and in some cases as much as one hundred and twenty grains *per diem* was required. He gave it chiefly in starch capsules, with oil of bergamot to conceal the odor. Occasionally he had found that the urine became smoky under its use, but no albumen or casts could be detected in it. In one case of twenty-four years' standing, in a man sixty-one years of age, a cure was effected by the use of ninety grains a day. In two cases he had used it successfully in the diarrhoea of typhoid fever. The patients were in the third week of the disease, and took from sixty to ninety grains a day, which reduced the stools to two in the twenty-four hours, and rendered them perfectly odorless. Naphthaline also had an antipyretic effect in these cases, and he regarded it as quite as safe as any of the antipyretics now so commonly employed, such as antipyrine, thallin, etc. He had also tried resorcin to some extent, but with very indifferent results.

DR. ANDREW H. SMITH remarked that it had been his idea for some time that the cause of summer diarrhoea could be best treated by the aid of antiseptics. The essential oils which were in common use in domestic practice, are really antiseptics and the same was true of the pennyroyal, spearmint, and peppermint teas so often resorted to in the country.

DR. VAN ZANTWOOD said that Dr. Holt was no doubt correct in considering the disease primarily dyspeptic in character. He thought bismuth was of service, not simply from its mechanical effect, but because it was a true antiseptic. The inflammatory changes were largely located in the large intestine, and he was in the habit of employing large astringent injections to flush out the colon. He combined an alkali with the astringent in these injections, in order to be able to get at the mucous membrane, by removing the mucus from it.

The President, DR. A. JACOBI, said that he heartily agreed with what Dr. Holt had taught in his paper, and particularly as to the antiseptic character

of remedies long in use. As regards bismuth, which is now regarded simply as an inert mechanical substance, he had published an article twelve years ago in the *American Journal of Obstetrics*, in which he distinctly claimed that it was an antifermentative; and such was still his conviction. He also agreed with Dr. Holt as to the importance of appropriate dietetic treatment. If there were any one especial danger in summer diarrhoea, it came from the use of milk, and for twenty-five years now, he had taught that the disease could not be cured unless milk was given up. It was often necessary to withdraw it for a number of days; and there were plenty of things that could be resorted to to take its place. As a rule, he substituted for it the white of egg, raw, mixed with barley water, or other farinaceous drink. The use of raw meat had been advised by some, but this should not be employed if it could be avoided, on account of the danger of introducing into the system the *tania canelata*, which was a much more difficult kind of tape-worm to get rid of than the ordinary *tania solium*.

DR. GEORGE F. PEABODY said that he had come to look upon naphthaline as a very valuable addition to our therapeutic resources, in a number of intestinal complaints. For some time past he had been using it in all the earlier cases of typhoid fever which came under his care at the New York Hospital. It was reasonable, he thought, to look for relief in a remedy which acts directly on the local lesions, and several cases had already occurred in his practice in which the disease was apparently aborted by this remedy. He referred particularly to a case which came under treatment on the second day of the disease. By the thirteenth day the fever was gone, and convalescence had commenced; yet the patient had had the usual prodromal symptom of typhoid, and the characteristic eruption and enlargement of the spleen had been well-marked. Dr. Peabody also mentioned a case of chronic diarrhoea, of twenty-one years' standing. The patient had been under treatment for a broken leg in the surgical wards of the hospital, but though while there the usual astringent remedies were employed, the diarrhoea still continued unchecked. On his transferral to the medical wards he was placed on the use of naphthaline, and in ten days the case was cured; the passages by that time having become normal in quantity, color, consistence and odor. Having referred to another cure of chronic diarrhoea by naphthaline, he stated in conclusion that all his cases of typhoid fever were given a preliminary full dose of calomel.

DR. HOLT said that Dr. Cauldwell, whom he had expected to be present at the meeting, had used salicylate of sodium with much success, in twenty cases of the diarrhoea of phthisis.

— In a recent paper by Prof. von Nussbaum, of Munich, on "Erysipelas," the author speaks very highly of the use of ichthyol, in the form of an ointment, made of equal parts of ichthyol and vaseline, to be painted over the whole erysipelatous area, then covered with ten per cent. salicylic lint, and fixed with a gauze bandage. In erysipelas of the face, ichthyol collodion is to be preferred, and on the hairy scalp, ichthyol soap.

THE BOSTON

**Medical and Surgical Journal.**

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**ANNUAL REPORT OF THE SURGEON-GENERAL, UNITED STATES NAVY.**

The report of the Surgeon-General, with the appended documents and estimates, makes a volume of 126 pages; but the report itself is apparently based on the size of the Navy.

The most noticeable recommendation is one to increase the advantages and improve the condition of the Medical Corps of the Navy. Its vacancies have not been filled for several years; resignations, deaths, and retirements have depleted it more rapidly than candidates have been obtained. The Bureau has not been willing to lower the standard of requirements, and it is impossible, with the present inducements, to find young men of the necessary qualifications who are disposed to become medical officers of the Navy. The Army has properly-qualified applicants in excess of its needs; its superior qualifications being better pay, well-defined rank, and more satisfactory professional position. Since 1870, more than thirty young medical officers have resigned, three of them to enter the army corps.

Of the persons examined for enlistment during the year — 10,913 — 79 were rejected for color-blindness or feeble color-sense. Eight candidates for admission to the Naval Academy have been rejected during the last four years for a similar cause.

The Medical Corps of the Navy is doing its share in advancing the public welfare through the Museum of Hygiene. In his report, Medical Director Turner, who is in charge of the Museum, states that there has been hardly a day without some call for information, either from plumbers, architects, medical men, or others interested in the means of preventing dangers to health. The collection of sanitary and hygienic appliances has increased, until the present building is completely occupied, and the attic is crowded with unbroken packages. In the library the shelving is full, and the constant addition of books, pamphlets, and circulars upon hygiene, both general and especial, has rendered it necessary to store these accessions upon

the floor space. In fact, its overcrowded condition impairs its usefulness.

The researches in the chemical, physical, and biological departments of the laboratory, which forms one department of the Museum, take the widest range, and may become of national importance; but the advantages of the Museum to original investigators, and their investigations into matters connected with public health and the progress of preventive medicine, are at present at their minimum for want of working room.

**EXTENSION OF THE CROTON WATER-SUPPLY SYSTEM.**

At a meeting of the New York Aqueduct Commissioners, held February 7th, it was formally determined to go on with the construction of the great Quaker Bridge Dam, which has been so long in contemplation as a part of the Croton water-supply system. On account of the magnitude of the work — the most stupendous piece of engineering of the kind ever undertaken — the Commissioners have proceeded with great deliberation, and did not finally decide in regard to the matter until after abundant opportunity had been afforded for the expression of the opinion of experts favorable to and in opposition to the project.

At the meeting there were presented a majority and a minority report. The former, which was in favor of the construction of the dam, was signed by six of the seven Commissioners. In it reference was made to the fact that some of the best hydraulic engineers of modern times have approved of the plan, and Gen. Newton, who recently resigned his position as Chief of the Engineer Corps of the United States Army, to accept the position of Commissioner of Public Works of the City of New York, supplemented the report with a personal statement favoring the project as the best one for securing a requisite supply of water for the city. In the minority report, which was signed alone by Mr. Spencer, President of the Aqueduct Commission, it was claimed that the construction of the dam, besides entailing an expense of over ten million dollars, was open to the objection that the dam would enclose an enormous quantity of water which could not be distributed in a thoroughly pure condition. In answer to this sanitary point a letter was read from Prof. Charles F. Chandler, ex-President of the New York Board of Health, in which he commended the project and denied that the water distributed from the lake formed by the dam would be impure.

The great dam which it has thus been decided to construct, will be situated several miles below the present Croton Dam, and near what is known as the Quaker Bridge. The dimensions are to be as follows: Total height above foundation upon solid bed rock, 277 feet; height above the bed of Croton River, 178 feet; length of dam at foundation, 500 feet; length at top, 1,500 feet. Including the capacity of the Muscoot Reservoir, which it was also voted at this

meeting to construct, 2,500,000,000 gallons, and of the Croton Reservoir, 1,500,000,000 gallons, the new dam will make a reservoir of the capacity of 38,377,935,000 gallons. The dam will raise the water 34 feet above the Croton Dam, and the surface-level of the water in the new reservoir will be about 200 feet above mean tide on the Hudson River. The plan for the water-supply of the city, as at present contemplated, will add 23 square miles of territory to the watershed of the Croton River, and the cost of the entire work, including \$1,200,000 to be expended in the purchase of the land required, is estimated by Mr. Church, the chief engineer, at \$6,741,000.

#### MEDICAL EXAMINERS AND THE RECORD OF THEIR WORK.

Two years ago, the Legislature of Massachusetts enacted a law requiring medical examiners to transmit annually to the Secretary of the Commonwealth "certified copies of the record of all deaths," the cause and manner of which they had investigated in the course of their official duty during the previous year. To secure uniformity in these annual reports, blank forms are provided which are designed to facilitate and systematize the work, at the same time leaving to the medical examiner a considerable discretion touching the fullness of the details relating to individual cases, the heading "Notes" permitting a somewhat elastic interpretation, according to the facts actually in the possession of the reporter and according to his judgment of the relative importance of the case itself. Thus, a homicide deserves fuller notice than a case of accidental drowning, and the blank, after its requirement of data relating to name, age, time of inspection and of autopsy (if an autopsy is made), cause and manner of death and expenses of the investigation, leaves an unlimited space for the full history of the case, the anatomical appearances, the result of the inquest and of other judicial proceedings—in short, a complete medico-legal history of the individual affairs.

Now it is obvious that these records—if properly made and successfully edited and published, as the law contemplates—must be of very great value to the medical examiners themselves, by leading them to be closer observers, knowing that their work must go on record; to the executive department of the State government, by demonstrating the fitness of individuals to hold the responsible office of a medical examiner; to legal medicine, by furnishing a unique collection of medico-legal cases; to medical science at large, by throwing light upon a too-neglected but fruitful field; to the public in general, by supplying evidence of the efficiency and fidelity displayed by its servants. The labor imposed by the statute upon the medical examiner is not a burden worth mentioning, a majority of the corps having but a limited number of cases in the course of each year; it is only in the large cities that the task of preparing the records can prove in any degree irksome.

An examination of the returns on file at the office of the Secretary of State, covering the work of the year 1886, compels the conviction that, on the part of some of the medical examiners, the purpose and potential advantages of the law are not recognized or appreciated. The letter of the statute has, indeed, been fulfilled, but its spirit and intent have been in too many instances ignored. In some cases, the "certified copy of the record" gives a most meagre and wholly unsatisfactory mention of the circumstances attending the death; in a few instances, the return has been forwarded with absolutely no mention of the data having medico-legal value, the column of "Notes" being left blank.

This evidence of indifference or laziness is exceptional, however; the majority of the reports are satisfactory, and attest the zeal and intelligent efficiency of their authors. But it is plain that, unless all the corps of seventy-four medical examiners freely and faithfully contribute their share to the general fund of medico-legal information, the product is just so far impaired. If the raw material, the foundation data, are of poor quality, it is useless to look for fine results at the editor's hands. Each medical examiner owes it to his fellows, to the honor of his office, and to his respect for the law, to make his record of real value.

The JOURNAL's uniform attitude of friendly recognition of the medical examiners and their work, makes it a less ungracious act to give this hint of the possibility of improving that work in one important direction, and to recall the adage "Whatever is worth doing at all is worth doing well." If the new system of investigating deaths by violence is to grow in esteem in the State of its birth, and is to commend itself to other States as a good thing for their adoption, it must continue to enlist the efficient, zealous, faithful services of its own agents and representatives.

We continue to be so convinced of the excellence of the system, as a whole—of the great advance over the conditions which it has replaced—that we earnestly desire to see it bearing *all* the results which we know may be fairly expected from it. And while we believe it to be better that medical examiners should not be cramped and trammelled by a too rigid official formulæ, we should be glad to recognize that they were all availing themselves, in the best sense and with the most genuine discretion, of the latitude which the present forms allow. We hope that all our medical examiners will feel a just pride in keeping Massachusetts to the front in this very important department.

#### THE HYGIENE OF CRIMINAL COURTS AND PRISONS.

DR. DAY, Sanitary Superintendent, has transmitted to the New York Board of Health a report by the Sanitary Inspectors in regard to the condition of the Tombs Police Court, the Special Sessions Court, and the old Tombs Prison, the result of an examination

just made in compliance with a request of the Board of Police Justices. The inspectors found the places named in a deplorable and alarming condition. Thus, there are old brick cesspools full of disease-breeding matter under the police court, and apertures in the walls permit the effluvia to enter the court-room. This room, in which 26,000 persons were arraigned last year, is badly ventilated; while the sewerage is in a disgraceful condition. All the waste-pipes of the prison seem to connect directly with the Special Sessions Court and the clerks' offices. The connections are not trapped, and there is free communication with unventilated house-drains which empty into a large pool in the prison yard. The heating system, which is by stove, also further vitiates the air.

This report, which states furthermore that the recommendations made in regard to the Tombs, two years ago, were only partially carried out, and explains what measures should be adopted for the removal or improvement of the bad sanitary conditions now prevailing, was transmitted by the Health Board to the Commissioners of Charities and Correction, and it is to be hoped that prompt action will be taken in the matter.

So long as conditions, such as those described in this report, continue to prevail in our court rooms and jails, we shall continue to find in practice that members of the bench and bar, especially in middle life, are peculiarly liable to pneumonia, and to read in our text-books that phthisis flourishes in prisons; even if we escape a revival of the old term, jail-fever. Bad ventilation is probably the rule rather than the exception in most of those buildings in our cities devoted to the detention of criminals and the administration of criminal justice; add to this overcrowding and bad drainage, and all the necessary conditions are given for producing a rapid rotation in judicial offices, with an early transference to another world of the administration of justice. It may be because such results are not recognized as an absolute evil, that it is so difficult to arouse the spirit of reform.

#### MEDICAL NOTES.

— Dr. Schutz, of Rostock, advocates the use of hydragric acid in many cases of profuse menstruation, and also in the hemorrhages from myomata. He believes that it acts primarily on the bloodvessels, while ergot acts on the muscles of the uterus. Thus the two drugs produce similar effects, but in different ways, and the hydragric has been found sometimes effective in cases where the ergot failed.

— The editor of the *Therapeutic Gazette* says that in several hundred cases of chorea treated in the Philadelphia and University Hospitals, cimicifuga racemosa was found of some value, but yet was distinctly inferior to arsenic. If this latter remedy fails, the next attempt is usually made with the cimicifuga. The arsenic, however, requires to be given in ascending

doses until it produces physiological effects, which requires a little boldness on the part of the physician. If the remedy is withdrawn as soon as puffiness is seen in the face, no harm can be done.

— Not long since an action was brought at Paris to recover a sum of money alleged to be owing as the price of the sale of a medical practice. The plaintiff was non-suited, on the ground that the *clientèle* of a physician was not a saleable property, and, therefore, that the money agreed to be paid in consideration thereof was not recoverable by law. This ruling is in marked contrast with the usage so common in England of transferring physicians' practices, and is somewhat in accord with the experience in the comparatively infrequent operations of the kind in this country, that it is one thing to make the sale, and quite another to deliver the goods.

— The abstract of sanitary reports issued from the office of the Surgeon-General of the Marine Hospital Service, under date of February 17th, gives the returns as to cholera in Japan. In 1885 there were altogether 11,927 cases and 7,152 deaths, the proportion of mortality being about 60 per cent. In 1886, there were 154,373 cases and 101,695 deaths, a proportion of about 66 per cent. Thus we see that the cholera in Japan during the past year has spread widely, has been exceptionally severe, and the percentage of deaths enormous. In Nagasaki Ken, however, owing to the speedy and vigorous restrictive measures adopted by the Government, the epidemic of 1886 was not so severe as that of 1885.

The means taken for the control of the disease at Takasima Colliery, on the island of Takasima, near Nagasaki, were particularly creditable. At this place, in 1885, the epidemic had been very severe. Of the 4,000 men employed in the mines 1,500 were attacked and 800 died. As this was the third or fourth time that the island had been ravaged with cholera, the owners of the mines determined to try such preventive means as modern science could suggest. A complete sewerage system was formed. Heavy pumping arrangements were erected on the beach, for pumping sea-water to the highest point of the island, whence by an arrangement of drains and sluices it was gravitated back to the sea, flushing for three or four hours daily every drain among the dwelling-houses. An extensive fresh-water condensing apparatus was erected, turning out from 7,000 to 8,000 gallons of water per day. The wells on the island were closed, and water from the main-land only allowed to be imported for purposes of washing, etc. A strict system of food quarantine was instituted, and all food was supplied through the company. Three digesters, each of 800 gallons capacity, were erected, beef killed under inspection being used to make soup, about 1,000 gallons per day being supplied to the miners. Beef was also served out in the rations. All shell-fish were prohibited, only deep-water fish, after inspection, being allowed to be landed or sold. No deleterious vegetables of any kind were permitted to be brought

to the island; potatoes, beans, and certain harmless native vegetables being the only ones allowed for consumption. The success of the system adopted has been amply demonstrated by the fact that Takasima has been the only place in Nagasaki Ken untouched by cholera during this year's epidemic.

## BOSTON.

— We observe that one of our New York contemporaries has taken somewhat seriously the sensational report published in one of the Boston daily papers, to the effect that a bureau of undergraduate practitioners had established itself in proximity to the Boston Lying-in Hospital, on McLean Street, with a view to diverting obstetric patients from that institution. We had refrained from allusion to this unfounded story when it appeared, but, as it seems to have impressed the very elect, we now refer to it only to deny its authenticity. Practice in a dispensary district and instruction in obstetrics appear to have confused and been confused in the mind of an enterprising reporter.

## NEW YORK.

— Dr. J. B. Mattison, of Brooklyn, read a paper on "Cocaine Dosage and Cocaine Addiction," before the Kings County Medical Society, February 15th; and at its close, a motion made by Dr. Alex. I. C. Skene was unanimously adopted, appointing a Committee, consisting of the President and Secretary, Drs. Wallace and De Laverne, and Dr. Mattison, to draft a bill for presentation to the legislature, placing cocaine on the list of poisonous drugs, and to be sold only on physician's prescription.

— At this meeting the Society adopted the report of a Committee recommending the purchase of land and buildings on Bridge Street, and appointed Trustees to make this purchase and to receive subscriptions, not to exceed \$15,000. It is intended to erect a large hall for meetings, and transfer to it the Society's library.

— Small-pox does not seem to increase in the city, but still prevails to some extent. During the week ending February 19th, there were reported thirteen cases and six deaths from the disease.

— At a meeting of the Institute of Social Science, held February 10th, Dr. T. D. Crothers, Superintendent of the Walnut Lodge, Hartford, Conn., read a paper on the "Cause and Cure of Inebriety." He estimated the number of inebriates in the United States at 500,000, with a mortality of 90 per cent., and assigned a number of causes for the existence and increase of the evil. He considered inebriety as a disease, which is not curable by the exercise of will-power, and advocated the organization of work-house hospitals, in which the inebriated could be restrained and treated, these institutions to be situated in the country, and conducted on a military basis. He would have three grades of hospitals: one for recent cases, where the inmates can be committed by the courts, or volun-

tarily commit themselves, for one or two years; another for chronic cases, with a term of commitment of from one to three years; and the third for incurables, with a term of from five to ten years, or for life. The money for their maintenance would be taken from the license fund or the taxes on the sale of spirits.

## Miscellany.

## CHLORAL HYDRATE AS A VESICANT.

ATTENTION is again called by the *Medical Press*, October 13th, 1886, to the fact that, for blistering purposes, chloral hydrate is fully as efficacious as cantharides, while it is free from the inconveniences attending the employment of this latter agent. The chloral should be reduced to a powder, and a layer of it placed on a piece of common adhesive plaster, taking care to leave a margin between the edge of the layer of chloral and that of the plaster. This is then warmed over a gas-jet until the chloral becomes discolored and melts, when it should be immediately applied on the spot for the operation, the skin covering which is to be anointed beforehand with olive oil or lard. The anæsthetic properties of the chloral prevent any unpleasant sensation, and fifteen minutes is the maximum period of time during which the application may be continued. If the above-mentioned precaution be taken of anointing the skin, its vitality is retained, and the presence of an open wound is avoided, the skin adhering again as soon as the exudation is evacuated. Another advantage consists in the absence of the risk of poisonous effects consequent on absorption, a by no means uncommon sequel to the use of cantharides.

## THE OCCASIONAL SUPERVENTION OF URGENT SYMPTOMS UPON THE PUNCTURE OF HYDATID CYSTS OF THE LIVER.

MR. LAURENCE HUMPHRY reported in the *Lancet*, January 15th, a case of collapse with dangerous symptoms, following the withdrawal of half a drachm of hydatid fluid by means of a hypodermic needle from the liver of a man aged twenty-three. He also cites two cases in which death followed this simple operation, while the occurrence of urticaria after such puncture is said to be common. He thinks that these complications do not arise after the puncture of other hepatic tumors or abscesses, and believes that the hydatid cyst contains some poisonous substance which finds entrance to the system at the time the cyst is tapped. To confirm this he requested Professor Roy to inject into animals (in the jugular veins and the peritoneal cavity) some of the fluid from this patient. Two of the animals died and the others showed toxic symptoms. As a conclusion from his experiment Professor Roy remarks: "It may be concluded from this experiment, so far as is possible from a single experiment, that there is in hydatid fluid some substance which has a powerful effect on both the heart and the respiratory mechanism. From the first two doses but little effect on the rate of the heart-beat was produced, but on giving a larger dose the slowing of the heart from

seventy to thirty-three beats per minute is very striking. The acceleration of the respiration by the first dose and its great slowing by the dose of twenty cc. of hydatid fluid, are also remarkable. The great fall of the blood-pressure after the third dose shows that the fluid from hydatid cysts contains some substance which can affect the blood-pressure in the systemic arteries to a very serious extent. The marked change in the rate of heart-beat, the respiration, and the blood-pressure after atropine seems of much interest as well as of practical importance." The hydatid fluid may enter a wounded vein at the time of puncture (continues the author), or escape into the peritoneal cavity and be subsequently absorbed, and the rapidity of onset and urgency of the symptoms would be the indication. In the post-mortem account of the fatal case recorded by Mr. Bryant, it was found that immediately inside the hydatid capsule the trocar had transfixed a very large vein, which on subsequent dissection was found to be the trunk of the portal vein, and it was supposed that after withdrawal of the trocar, hydatid fluid escaped into the portal vein and acted as a fatal poison. It may be questioned whether there is not a greater liability, where the close method of tapping is employed, for the fluid to find entrance into one of the dilated veins, which are sometimes found in the fibrous atrophied liver tissue around the cyst, should one happen to be wounded; and whether the treatment by incision, advocated by some, may not be found safer.

#### PHYSICAL TRAINING IN ELEMENTARY SCHOOLS.

THAT this important subject is gradually gaining public attention, is sufficiently clear to one who reads the signs of the times. What is especially needed is evidence as to what specific means of training have been tried and found applicable in common schools. In this direction is an article by Charles F. Bearsley, M. A., in the *Sanitary Record* for December 15th, 1886. We make the following extracts from the article:

"No one who has visited one of the newest and most efficient of our Board Schools can fail to have been impressed by the thoroughness of the arrangements and the completeness of the educational machinery, so far as it goes. At the same time it would not be strange if one came away with the feeling that there is a onesidedness about the whole system. This imposing building, with its ingenious apparatus and skilled staff, is devoted entirely to the training of the mental faculties. As a rule, the physical development of the scholars is left to take care of itself. Reading, writing, arithmetic, history, geography, grammar, in some cases the elements of science, even languages, as well as drawing, sewing, and cookery, are taught after the most approved methods. In nearly every time-table systematic physical training is conspicuous only by its absence.

"If physical exercise is to be generally introduced into our elementary schools, it must be put on an equal footing with other subjects. Then teachers may devote a fair amount of time and attention to it without being harassed by the thought that for the time thus employed they will be able to show no pecuniary result.

"If physical training were to be thus endowed as a

source of school revenue, it might be considered necessary to have, as a guarantee that some definite work would be done therefor, a syllabus of exercises for each year. A suitable scheme could easily be arranged. Probably much might be learned from a study of the German and Swedish systems of gymnastics. It might, however, be better at first to leave the scheme of exercises to be arranged by the teachers, subject to the approval of the school inspector. I do not at present propose to offer many detailed suggestions, but shall confine myself to a few general principles that should be kept in view.

"In the first place the exercises, while tending to the healthy development of all the bodily organs, should be, as much as possible, of a recreative character. In the younger classes they must be very largely so, just as the kindergarten system seeks to educate the senses and the intellect by attractive exercises in form, color and number. Some actual pastimes might be occasionally introduced, and the charm of combined rhythmic movement should not be forgotten. It is generally understood that exercise taken for its own sake is not so beneficial as when it is incidental to some pleasant occupation or the attainment of some engaging end. Of course there must be a good deal of routine work in any practicable scheme. Even though it were found unavoidable that the course should consist entirely of gymnastic drill, it might still be expected to be attended with solid benefit. A great part of the intellectual training of children has to be conducted on the 'drill' principle. Drill there must be; but the regular change from mental to physical drill would do much to refresh the jaded powers of both scholar and teacher. I say 'teacher' advisedly, for the teachers should share in all the exercises and in all the sports of the children. It is in fact almost as much in the interests of the teachers as of the scholars that I desire to see physical training made a regular part of our school system.

"On this account I would strongly recommend that the exercises be taught not by visiting teachers but by the ordinary staff. There is another reason for this, well known to practical educationists. Visiting teachers are generally regarded as a kind of necessary evil. They have not the same hold of the children as those who have them constantly in hand; often, though perhaps eminent specialists, they are unskilful in teaching and dealing with children; and the arrangements necessary for them to meet the scholars in suitable detachments often interfere seriously with the organization of a school. A system of physical training which necessitates such aid is bound to break down. To insure its success it must be workable by the ordinary staff. Gymnastics and calisthenics, which are not at present entirely neglected in our training colleges, would then become subjects in which proficiency would be desirable; and there is no question that in a short time teachers thoroughly qualified for the work would be turned out. . . .

"Lastly, as to apparatus, rooms, etc. A good many invigorating exercises require no apparatus. For a good many others apparatus could easily be fitted up in the ordinary class-rooms. Many exercises on the parallel and horizontal bars, as well as vaulting and leaping, could be performed by a class in rapid succession. On a row of rings or stirrups, suspended along the free space of a class-room, the pupils could exercise themselves in detachments. Any additional

outlay on appliances of this sort should be regarded as a part of educational expenditure as necessary as the cost of a desk and seat for each scholar. A regular gymnasium would no doubt be a great acquisition to every school; but it is by no means indispensable. Even where there is one, part of the exercises should be performed in the class-rooms; and it would be desirable to have a considerable portion of the training given in the open air.

"Of the feasibility of the scheme suggested I have, as a practical teacher, no doubt whatever. It is quite as workable as the present elaborate sewing schedule, and much more so than the teaching of cookery in elementary schools."

### Correspondence.

#### THE DISCUSSION ON ARSENIC AT THE SUFFOLK DISTRICT SOCIETY.

BOSTON, FEB. 19, 1887.

MR. EDITOR,—In your issue of February 10th, an editorial upon "Arsenic Wall-papers" comments upon my remarks at a meeting of the Suffolk Section of the Massachusetts Medical Society. Presumably these comments were based upon the report of the meeting as published in your paper. The report so distorted what I said, and in several instances made me say what I did not say at all, that I make claim to your space in correction.

In regard to the several disorders instanced as having common symptoms, I did not say that physicians made mistakes, but used the words, "how are you to differentiate in these cases."

Neither did I say that this subject is "but two or three years old," for a correct report would show that I instanced a case of twenty years ago; and here I was made to say that "the girl died." Any reader could see that if I had desired to show the "careless way" and "wrong theories" of physicians, I should not have added by way of context such a remark as "the girl died." In point of fact the girl did not die. What I said was "the symptoms still remained," and I further added, "no attention was paid to the fact that there was a washstand in the bedroom connected with the sewer."

In speaking of the arseniuretted-hydrogen theory of poisoning I dismissed it with the simple remark: "It is ingenious, but I think hardly probable."

It is not necessary to enlarge upon the various other points. I may, however, add that the method of production of arsenical aniline colors, as attributed to me, is mistaken.

To your editorial upon the subject I need not refer in detail. After the distortion of the report, it follows naturally enough, I suppose, that you should use such words as "ignorant" and "impertinent;" but it is considered more courteous to first be accurate in understanding one's position if it is to be assailed. I do not feel it desirable at this time to treat the question controversially, and have avoided statements in support of my position.

At the meeting of the Society, my treatment was marked by courtesy and attention, and I have been surprised that the report of my remarks was so generally perverted. In fact, there are only one or two sentences which convey the sense of what I said.

C. TENNANT LEE.

[Mr. Lee's remarks at the meeting of the Clinical Section of the Suffolk District Medical Society were understood in the sense in which they were referred to in our columns by several of those who were present at the meeting and took part in the discussion. Notice would have been taken of Mr. Lee's remarks at the time, had he not left the room.—Ed.]

#### ANOTHER RENDERING OF THE GREEK MESSAGE.

ROXBURY, MASS, February 18, 1887.

MR. EDITOR,—I have waited two weeks, in vain, for a vernacular translation of the message upon "B's" slate, and so suggest, that, had he in his waiting-room the proper *necessaries* (labelled after the manner of the Boston and Albany Railroad, "men," "women?"), he would have saved his fee, and us all the trouble of translating the message.

Yours truly, U. V. M.

#### DOMESTIC DEVICE FOR NIPPLE SHIELDS.

HOLYOKE, February 12, 1887.

MR. EDITOR,—The old adage, that "there is no new thing under the sun," was prettily contradicted by one of my patients, who, suffering with fissured nipples—so sensitive and painful that their contact with any fabric or dressing caused intense distress—invented for herself most perfect nipple-shields, by suspending from a ribbon about the neck, two deep, wire tea-strainers.

They were held in place by a properly-fitting waist, and the nipples, thus covered, were entirely free from any irritation.

She had, moreover, such a copious supply of milk, that it was otherwise quite impossible to keep the nipples dry. This was remedied by the ready passage of the milk through the wire gauze to a layer of absorbent cotton covering the tea-strainer.

Not until she began to employ this method of protecting the nipples did the process of healing go on satisfactorily.

This young mother's clever device has been a source of great comfort in a number of similar cases which have since then come under my care.

I believe that this use of the tea-strainer is quite novel, and trust that its value may be tested by some of your readers.

Truly yours,  
FRANK HOLYOKE, M.D.

#### THE TRIALS OF AN ANATOMIST IN THE LAST CENTURY.

LEXINGTON, MASS., January 28th, 1887.

MR. EDITOR,—The following letter "to the impartial Publick," written in 1771, may be of some interest to physicians and pharmacists of the present day.

Yours respectfully,  
ROBERT M. LAWRENCE, M.D.

#### To the Impartial Publick:

It is with great reluctance I appear in print, but it is become necessary, as I have been represented to the Publick in an odious light by a set of men who cannot bear any should live but themselves. To set this affair in a clear light, it is proper to acquaint the Publick that about twelve months ago I set up an Apothecary's shop in Worcester, which was disagreeable to a certain number of men who would if possible monopolize (to themselves) all the Profits of the Town.

In this situation my conduct was narrowly inspected, and unfortunately for me, I gave them an opportunity by taking up the body of one Linsey, who was executed on the 25th of October last, with no other view than the advantage of having a skeleton in town, whereby other surgeons and myself might gain further knowledge of the human structure. At this they rejoiced, proclaiming that I had done for myself and that I must leave the town. I ought to be hanged, etc., till they enraged some people to such a degree that a number, after consulting lawyers to know if I had laid myself open to the law (resolving to prosecute me without mercy) finding I had not, they came

<sup>1</sup> From the Boston Gazette and Country Journal, Monday, February 18th, 1771.

in a riotous manner to my house, demanding the body, which I delivered; desiring that they would keep it covered. Instead of taking my advice (with a view to irritate the minds of the people) they exposed it the remainder of the day to as many as they could collect, which had the desired effect, so much that they surrounded my house soon after in the night, blowing horns, ringing bells, hanging up a dead b-tch before my door, etc. Notwithstanding all they did, the thinking part of the people considering ultimate design was to get knowledge which would tend to the publick good, my practice and custom returned as formerly. But being hitherto baffled in their attempts, they published an anonymous advertisement respecting me, as using the body in an inhuman manner and contrary to his desire. I can make oath I did not know his desire (it was known only to a few) till after the affair happened.

And that their advertisement might take the greatest effect, they inform you it is truth, and attested by five respectable gentlemen. These gentlemen I allow to be as worthy as any, and I believe the publick will think so when they are informed they were requested to sign the advertisement, but one and all refused, on account of its being a spiteful, ill-natured, malicious thing. Having represented the facts just and truly as they were, I leave it to the impartial Publick, whether or not I ought to be represented to the world in such an infamous manner, as these men and their dependants have done. After examining the whole with candor, I hope my friends and customers will see through their evil designs and continue their favours as usual.

I remain the Publick's most obedient humble servant,  
ELIJAH DIX, M.D.

## REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 12, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Typhoid Fever.	Diph. & Croup.	Measles.
New York	1,481,920	751	323	21.71	18.96	.39	8.97	6.37
Philadelphia	968,801	419	120	12.96	10.56	3.36	6.24	.24
Brooklyn	745,108	279	129	17.00	21.08	1.70	7.14	4.76
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	135	52	6.06	15.54	—	4.44	.74
Boston	400,000	162	53	11.74	13.64	1.24	8.86	1.24
New Orleans	242,750	101	23	7.82	12.86	—	3.96	—
Buffalo	225,000	62	22	12.88	6.44	1.61	4.83	1.61
Cleveland	210,000	77	41	18.06	12.98	2.58	9.03	—
District of Columbia	210,000	70	15	7.15	10.00	—	5.72	—
Pittsburgh	210,000	74	31	29.70	14.85	6.75	9.45	6.75
Montreal	186,257	91	57	10.70	11.99	1.09	10.18	4.36
Providence	121,000	57	19	26.10	17.54	3.50	5.25	10.50
Richmond	100,000	36	18	19.46	8.94	2.78	—	2.78
New Haven	80,000	29	7	6.50	17.25	—	3.45	—
Nashville	65,000	21	4	14.28	4.76	—	—	—
Charleston	60,145	23	7	4.35	21.75	—	—	—
Portland	40,000	8	1	—	12.50	—	—	—
Worcester	68,383	27	9	7.46	18.50	—	.37	—
Lowell	64,061	57	25	14.60	14.00	5.25	1.75	1.75
Cambridge	59,620	16	5	6.25	37.50	6.25	—	—
Fall River	56,825	16	6	18.25	6.25	—	6.25	—
Lynn	45,861	10	5	20.00	10.00	—	10.00	—
Lawrence	38,825	15	7	—	6.66	—	—	—
Springfield	37,577	21	4	14.28	19.04	4.76	4.76	—
New Bedford	35,365	10	5	10.00	30.00	—	—	—
Somerville	29,922	—	—	—	—	—	—	—
Salem	28,084	7	4	—	14.28	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	8	2	12.50	25.00	—	—	—
Taunton	25,674	5	2	40.00	—	—	20.00	—
Haverhill	21,736	9	4	22.22	22.22	—	—	—
Gloucester	21,713	7	1	14.28	—	—	—	—
Brocton	20,783	8	1	—	25.00	—	—	—
Newton	19,759	8	1	12.50	12.50	—	12.50	—
Malden	16,407	7	1	14.28	7.14	—	—	—
Fitchburg	15,575	—	—	—	—	—	—	—
Waltham	14,629	7	0	—	—	—	—	—
Newburyport	13,716	5	0	—	20.00	—	—	—
Northampton	12,896	6	2	50.00	—	—	50.00	—

Deaths reported 2,544: under five years of age 1,017; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 435, acute lung diseases 404, consumption 385, diphtheria and croup 178, measles 85, typhoid fever 45, diarrhoeal diseases 44, scarlet fever 24, malaria fever 16, cerebro-spinal meningitis 11, erysipelas 11, whooping-cough 13, small-pox four, puerperal fever four. From diarrhoeal diseases, New York 16, New Orleans four, Philadelphia, Montreal, Providence and New Haven three each, Cleveland and Fall River two each, Brooklyn, Baltimore, Richmond, Charleston, Lowell, New Bedford, Chelsea, and Haverhill one each. From scarlet fever, New York 10, Brooklyn five, Philadelphia four, Pittsburgh two, Providence, Taunton, and Malden one each. From malarial fevers, New York six, Brooklyn three, Cleveland and District of Columbia, two each, Philadelphia, Baltimore and Buffalo one each. From cerebro-spinal meningitis, New York three, Lowell two, Philadelphia, Buffalo, Pittsburgh, Lynn, Springfield and Gloucester one each. From erysipelas, New York four, Philadelphia two, District of Columbia, Pittsburgh, New Haven, Haverhill,

and Malden one each. From whooping-cough, New York and Richmond four each, Philadelphia two, Buffalo, Montreal and Worcester one each. From small-pox, New York three, Brooklyn one. From puerperal fever, Boston two, Cleveland and Pittsburgh one each.

In the 32 cities and greater towns of Massachusetts, with a population of 1,027,994 (population of the State 1,941,465) the total death-rate for the week was 20.89 against 18.95 and 22.45 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,245,068, for the week ending January 31st the death-rate was 21.1. Deaths reported 3,734: infants under one year of age 781; acute diseases of the respiratory organs (London), 432; measles 130, whooping-cough 76, scarlet fever 54, diarrhoea 41, fever 37, diphtheria 33.

The death-rates ranged from 11.1 in Derby to 36.6 in Bristol; Birmingham 20.1; Bradford 19.8; Hull 19.1; Leeds 23.1; Leicester 19.3; Liverpool 26.1; London 19.6; Manchester 27.9; Nottingham 19.8; Portsmouth 22.7; Sheffield 19.6; In Edinburgh 18.8; Glasgow 29.8; Dublin 28.2.

The meteorological record for the week ending February 12, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather.			Rainfall.
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	
Feb. 5, 1887.																		
Sunday, . . . 6	30.289	33.0	39.0	29.0	87.0	82.0	81.0	83.0	S.W.	S.W.	S.W.	11	15	8	N.	O.	O.	—
Monday, . . . 7	30.462	38.0	40.0	22.0	62.0	70.0	80.0	74.0	N.	N.	E.	8	12	13	O.	O.	N.	—
Tuesday, . . . 8	30.074	37.0	44.0	27.0	93.0	97.0	93.0	94.0	E.	E.	S.W.	12	3	17	R.	R.	R.	—
Wednesday, . . . 9	30.030	36.0	44.0	27.0	51.0	37.0	37.0	48.0	W.	N.W.	W.	18	25	14	C.	C.	C.	—
Thursday, . . . 10	30.065	34.0	42.0	20.0	63.0	47.0	70.0	69.0	W.	S.W.	S.W.	10	16	12	C.	O.	O.	—
Friday, . . . 11	30.220	38.0	44.0	31.0	88.0	100.0	84.0	91.0	S.W.	S.E.	W.	7	8	19	O.	O.	R.	—
Saturday, . . . 12	30.187	19.0	38.0	14.0	67.0	50.0	65.0	61.0	W.	N.W.	W.	24	16	10	C.	C.	C.	.67
Mean, the Week.	30.061	32.1	42.0	23.0				73.0										

O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 12, 1887, TO FEBRUARY 18, 1887.

SMITH, JOS. R., lieutenant colonel and surgeon. Detailed, in addition to his present duties, as President of the Army Medical Board in New York City, N. Y. S. O. 38, A. G. O., February 15, 1887.

THREMAINE, W. S., major and surgeon. Sick leave still further extended four months, on surgeon's certificate of disability. S. O. 39, A. G. O., February 16, 1887.

WAKEMAN, WM. J., first lieutenant and assistant surgeon. Relieved from duty in Department of Platte, to take effect on the expiration of his present leave of absence, and ordered for duty at Fort Walla Walla, Wash. Ter. S. O. 36, A. G. O., February 12, 1887.

MORRIS, EDWARD A., first lieutenant and assistant surgeon. Leave of absence extended twenty days. S. O. 35, A. G. O., February 11, 1887.

HARRIS, H. S. T., first lieutenant and assistant surgeon. Ordered from Fort Clark, Tex., to Fort Ringgold, Tex. S. O. 16, Department of Texas, January 31, 1887.

McCURRY, GEO., captain and assistant surgeon. Granted leave of absence for one month, with permission to apply for one month's extension. S. O. 35, A. G. O., February 11, 1887.

TAYLOR, ARTHUR W., captain and assistant surgeon. Relieved from duty at Camp Medicine Butte, Wyo., and ordered for duty at Fort Laramie, Wyo. S. O. 14, Department of the Platte, February 12, 1887.

WYETH, M. C., captain and assistant surgeon. Ordered from Fort Wayne Mich., to Fort Barrancas, Fla. S. O. 39, A. G. O., February 16, 1887.

#### SOCIETY NOTICE.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.—There will be a meeting of this Section at 19 Boylston Place, Wednesday evening, March 24, at eight o'clock. The subject for the evening will be the "Treatment of Head Injuries." Dr. M. H. Richardson and Dr. E. H. Bradford will read papers. Dr. Morton Prince will illustrate the "Topographical Anatomy of the Brain on the Living Subject."

G. H. MONKS, M.D., Secretary.

#### OBITUARY. — FENNER HARRIS PECKHAM, M.D.

Dr. Fenner Harris Peckham, one of the oldest and best known physicians of Providence, R. I., died February 7th, of chronic Bright's disease, from which he had suffered for nine years. He was born in Killingly, Conn., January 27, 1820, and was the son of Dr. Hazard Peckham, an able and noted physician. After graduating at Yale Medical College in 1842, Dr. Peckham began his medical practice in Killingly, Conn. (now Putnam Heights), and removed to Providence in 1852. He was twice chosen president of the Rhode Island Medical Society. He has contributed to this JOURNAL and to literature several valuable addresses and monographs on special subjects of medical research. During the Civil War he served with distinction as a surgeon, first with Rhode Island regiments, and afterwards as surgeon of the board of enrollment of the second Rhode Island district. He leaves a wife and six children. To his only

son, Dr. F. H. Peckham, Jr., he relinquished the more arduous duties of his profession in 1878. One daughter, Dr. Grace Peckham, is an educated physician in successful practice in New York City.

#### BOOKS AND PAMPHLETS RECEIVED.

The Apache-Yumas and Apache-Mojaves. By Wm. H. Corbuser, M.D., U. S. A. 1886. (Reprint.)

Twenty-Eighth Annual Report of the Inspector of Milk and Vinegar for the Year 1886. Boston, 1887.

Report of Deaths, during the Month of January, 1887. By Edwin M. Snow, M.D., City Registrar, Providence, R. I. 1887.

Report of the Surgeon-General of the Navy for the Year 1886. Washington: Government Printing Office. 1886.

The Yearbook of Treatment for 1886. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co. 1887.

On Aphasia: being a Contribution to the Subject of the Dissolution of Speech from Cerebral Disease. By James Ross, M.D., LL.D. London: J. & A. Churchill. 1887.

Report of the Directors of the Boston Training School for Nurses attached to the Massachusetts General Hospital, 1886, with an Address by William L. Richardson, M.D.

A Text-Book on Surgery, General, Operative and Mechanical. By John A. Wyeth, M.D., Professor of Surgery in the New York Polytechnic, etc. New York: D. Appleton & Co. 1887.

A Case of Ante-Partum Hemorrhage at Term: Recovery. By Augustus V. Park, M.D., of Chicago, Member of the American Medical Association, Chicago Medical-Legal Society, Chicago Medical Society, etc. Chicago, 1887. (Reprint.)

An Outbreak of Cerebro-Spinal Fever. By T. J. MacLagan, M.D., M.R.C.P., Physician in Ordinary to their Royal Highnesses Prince and Princess Christian of Schleswig-Holstein. Edinburgh, MDCCCLXXXVI. (Reprint.)

XVIII. Die Balgdrüsen am Zungenrande und deren Hypertrophie. Aus Grund von 150 beobachteten Fällen beschrieben von Dr. med. H. I. Swain. (Hierzu Tafel V, VI.) Separatdruck aus dem Deutschen Archiv für klinische Medizin, XXXIX. Bd.

A Case of Pyelitis of Nineteen Years' Duration caused by a Renal Calculus: Recovery. By Augustus V. Park, M.D., of Chicago, Member of the American Medical Association, Chicago Medical-Legal Society, Chicago Medical Society, etc. Chicago, 1887. (Reprint.)

The Therapeutical Drinking of Hot Water: its Origin and Use. By Ephraim Cutter, M.D., and Origin of the Salsipurg Plans of Diet in Chronic Diseases, with Directions for Preparing Beef-pulp. By Ephraim Cutter, M.D., of New York City. New York: W. A. Kellogg. 1886.

A Clinical Manual of the Diseases of the Ear. By Lawrence Turnbull, M.D., Ph.D., Aural Surgeon to the Jefferson Medical College Hospital, etc., with a colored Lithograph Plate and numerous illustrations on wood. Second Revised Edition. Philadelphia: J. B. Lippincott Co. 1887.

Ueber Wirkung, therapeutischen Werth und Gebrauch des neuen Karlsbader Quellsalzes, nebst dessen Beziehung zum Karlsbader Thermalwasser. Von Dr. W. Jaworski, Universitäts-Dozent in Krakau (im Sommer in Karlsbad). Klinisch-experimentelle Untersuchungen aus der mediz. Universitätsklinik des Prof. Korczyński in Krakau. Wien, 1886.

## Original Articles.

TWO CASES OF CHRONIC ALCOHOLISM.<sup>1</sup>

BY W. A. GORTON, M.D.,  
Superintendent Danvers Lunatic Hospital.

Of the toxic neuroses, those produced by alcohol are probably among the most frequent, as they are certainly among the most interesting. So diverse have been the clinical phenomena attending their development, that until within a comparatively short period only a vague and general classification of them has been made, and it seems highly probable that many cases of nervous disorder have been erroneously attributed to other than alcoholic influences. The various forms of mental disorder produced by continued indulgence in the use of alcoholic drinks might be dwelt upon with some interest, and, perhaps, with profit, but the cases I have selected are chosen mainly to illustrate the complex character of what is generally called "Chronic Alcoholism."

A. H. J., male, aged thirty-four, married, native of United States, a milk-dealer by occupation, was admitted to the Danvers Lunatic Hospital, November 22, 1883. His friends stated that he had been a man of good bodily health and good mental capacity. Heredity good. For several years he had been very intemperate, and had indulged in venereal excesses. Seemed in perfect bodily health until August, 1882, or about fifteen months prior to admission, when he had what was called an attack of sciatica, which affected the right side principally, though pain was experienced on both sides, and which lasted about two months, confining him to bed most of this time. Experienced severe pain in his limbs during almost the whole period, but showed no mental symptoms. At the end of two months he had sufficiently recovered to resume his business and to renew his alcoholic and venereal indulgences. He continued in a condition which enabled him to attend to his work until July, 1883, although he suffered at times from neuralgic pains in his limbs. In July, 1883, or about three months before admission, he complained of being ill, suffered from the old pain in the limbs, but showed no special muscular weakness, although he fell from his wagon shortly before he gave up work. At this time he showed no mental symptoms that attracted the attention of his family, nor did he complain of any difficulty of hearing, vision or locomotion. He continued to drink to excess until August, when he began to show mental disturbance in the way of forgetfulness, incapacity for work and indifference to surroundings. At this time it was first noticed by the family that his gait was getting to be clumsy and unsteady. From this time until he entered the hospital he failed in all respects, becoming much demented and almost helpless from increasing feebleness of the lower limbs. He had no vesical or rectal paresis, and no fits. There was no direct history of syphilis. Examination on admission gave the following notes: man of medium height, well built but imperfectly nourished. Pupils are large in size, respond sluggishly. Tongue points to right and shows marked gross and fibrillary tremor. There is no appreciable lesion of heart or lungs, though the cardiac sounds are weak and the

pulse rapid, 144. Temperature normal. Is scarcely able to walk, gait showing extreme ataxia. Stands with eyes closed, but does so with extreme difficulty. Nutrition of limbs fair. The patellar reflex appears to be about normal on the left side, but is scarcely perceptible on the right. Cutaneous reflex apparently normal. Cutaneous sensibility apparently normal. Moves arms and uses hands without notable embarrassment. Speech incoherent, but articulation is not perceptibly impaired. Mentally is greatly confused, does not know where he is, cannot tell day of week or month. Seems greatly elated, but does not reveal delusions of grandeur. Mistakes identity of those about him. During the fortnight following his admission patient underwent no particular change. Was unable to walk without assistance, and passed much of the time in bed. Mental confusion persisted. Received no medicine. After this, patient began to improve, both mentally and physically, and two months after admission it is noted that he has become much clearer mentally, and is able to assist in ward work. Is childish in manner, memory is impaired and he has numerous delusions of identity. Says he feels well, has no pain, and thinks he ought to go home. Gait is slightly ataxic, but he gets about quite easily. In April, five months after admission, he had recovered almost completely from ataxic symptoms, and had gained greatly in general strength. Still showed delusions of identity, and thought he had discovered a new way to preserve meat and milk, which, when patented, would make his fortune. Improvement was progressive, and at the end of a year he had become able to do regular and hard work without fatigue, and had in great measure lost his delusions, though he was still uncertain about the identity of certain people about the hospital. Had had no neuralgic attack since admission. Fifteen months after admission he was discharged; has since remained well as far as is known, though I have not seen him for a year, but at that time he was in vigorous physical health and had no delusions.

The second case is that of a male, single, age thirty-five. A commercial traveler by occupation. Of good mental capacity and good physical health until he broke down from prolonged dissipation. Though very intemperate he had been able to support himself until the year preceding his admission, during which he was, for the most part, unable to work. In the spring of 1885 had reached such a state of mental, moral and physical degradation that he was placed in the Washingtonian Home for treatment, from which place he was transferred to the Danvers Lunatic Hospital, July 23, 1885, as a dipsomaniac. On admission he was found to be practically helpless from well-developed paresis of both lower extremities, and his condition indicated great physical prostration. Complete examination disclosed a large bed sore just above the left gluteal region, in the center of which was a large dark and offensive slough, and a smaller sore, apparently of more recent development, on the left knee. Was wholly unable to stand, but by great effort could partly flex the limbs. The cutaneous sensibility in both legs was found to be delayed but not markedly diminished. There was absence of the patellar reflex and of ankle clonus on both sides. Muscles of both limbs were flabby, and the general contour was indicative of atrophy. The respiration was accelerated and labored. Voice sounds weak and articulation difficult

<sup>1</sup> Read before the Boston Medico-Psychological Society, November 18, 1886.

and explosive in character. Incomplete paralysis of bladder and rectum. Was mildly delirious. Talked in a calm, self-satisfied way, but had many delusions of identity, and did not know where he was. Thought he would be all right if allowed to get up and dress himself and take a little exercise. Said he had been paralyzed once before from syphilis, which he contracted at the age of eighteen, seventeen years before admission. Pulse 98, temperature 98°. For a week there was no perceptible change in his condition. Was mildly delirious, restless, and troublesome. Began to complain of pains in his limbs, which were partly due to the bedsores, which involved the greater portion of the left gluteus maximus muscle, and partly to some other cause, which was thought to be possibly syphilitic and he was given K. I. gr. xv. t. i. d., with hypnotics and anodynes at night. At the end of a month he had undergone slight improvement, but was still in a state of great exhaustion. Had acquired a certain amount of power in the lower limbs, the respiratory embarrassment had diminished, the vesical and rectal paresis had disappeared, the cutaneous sensibility was no longer delayed, and the bedsores had commenced to heal. Still showed loss of memory, with the same fleeting delusions of identity. Begged almost constantly for whiskey, which he thought would at once restore him to the full possession of all his faculties. Had taken it pretty freely with egg and milk, from the time he was admitted. At this time he was given hydrarg. protiod., grs.  $\frac{1}{2}$  t. i. d. During the next month improvement was quite rapid, he had become able to walk, but his gait was unsteady, respiratory embarrassment had wholly abated, and he seemed rational and appreciative. Unfortunately no record of the condition of the patellar reflex was now made. On the 4th day of November, 1885, or nearly four months from the date of admission, he had apparently made a complete recovery. He declared that he felt as well as ever; and at any rate he was well enough to run away from the hospital and make good his way to Cambridge, since which time nothing has been heard from him. The decided paresis, the bad muscular nutrition, the acute bedsores, the delayed sensibility, and the rectal and vesical paresis, induced me to make the diagnosis of acute myelitis, but with the qualification that the case was one of chronic alcoholism, and that a long time must be allowed to elapse before a positive opinion could be given. I am aware that the syphilitic element of the case is not to be overlooked, but after a lapse of seventeen years, during which the patient declared he had taken mercury enough to sink him, it seemed a little less likely that syphilis was the cause of his trouble, than his continued indulgence in alcohol almost up to the commencement of the attack.

I am aware that the foregoing histories are incomplete in many respects, but they were made when the patient, owing to the great amount of mental disorder present, could give no assistance, and with no special reference to being used in subsequent reports. Similar cases have been numerous reported and diversely explained, but it seems to me that these two at least come within the descriptions of alcoholic neuritis and paralysis with which the German periodicals of the past year have been largely filled, a most excellent *résumé* of which, made by Dr. Knapp, may be found in the *Boston Medical and Surgical Journal* for September 16, 1886.

# THE APPEARANCE OF INTERMITTENT FEVER NEAR THE NEPONSET RIVER.<sup>1</sup>

BY J. S. GREENE, M.D., OF DORCHESTER, MASS.

WHEN the causes of disease are studied in the presence of a wide-spread epidemic, or where endemic phenomena prevail over a large territory, the abundance of material gives advantages too obvious to need particularising; yet this very abundance may prove a source of perplexity. It becomes necessary to recognize and estimate the power of counter-active or intensifying influences. Evidence collected from many and various sources has to be weighed and sifted. The value of the work depends much on the judgment as well as the industry of the worker; for he has both to collate and arrange facts and opinions, and to sum up his conclusions with judicial fairness.

Such, on intermittent fever, was preëminently the work of Holmes fifty years ago; and such are the quite recent papers on the same subject by the Drs. Adams. Far less ambitious is the mere reporter's work of describing those things only which his own eyes have seen; yet his few facts, in their very simplicity, may have some significance to justify their presentation. Such is my humble and easy task, and such my apology.

In a practice of twenty-three years I have not known a case of intermittent fever in Dorchester nor Milton, until within the last four years, *except such as have been imported* from malarial localities. Other physicians say that they have seen no indigenous cases. Dr. Benjamin Cushing remembers to have heard his uncle, Dr. Thaxter, say that he had one such case in Dorchester. Perhaps it would not be too sweeping a statement to say, that with barely an exception, the cases which I shall mention are the only instances of intermittent fever ever known to have had their origin on the soil of Dorchester or Milton. I have seen seven thorough-going cases in four different localities—two in Dorchester and two in Milton. Besides these I have seen two cases of uncertain etiology, which being each resident under one or other of the four roofs covering the undoubted cases, I suspect of partaking the infection. Dr. M. V. Pierce, of Milton, has lately seen a case.

I will now mention the several cases, and briefly describe the places where they occurred.

The first case was in September, 1882, in the person of a man whom I had known for years as a laborer in Milton, at the skin-shops, so called, where fleeces are washed. Here he had developed so characteristic a case of tertian intermittent that I formed a probable diagnosis from his aspect, as I saw him approaching my house. He was an Irishman, about thirty-five years of age, previously healthy and able-bodied. At the time of his attack he was living on the first floor of his house and his roof was leaky. Afterwards the roof was repaired, and he moved to the second floor.

This wool-yard forms part of a relatively low-lying level tract of seventy-five or a hundred acres extent, between Milton Hill and the elevated land to the westward, where stand the churches and public buildings of Milton. Through this intervalle flow the pure waters of Pine Tree Brook, which empties into the Neponset a short distance below the eastern bor-

<sup>1</sup>Read before the Boston Society for Medical Observation, December 6, 1886.

der of the tract. A fog often clings to this small plain while the air is clear on the hills around; and the passer, remarking this, might suspect the plain of insalubrity. But such suspicion would find no support in facts. Time out of mind this same interval has been the abode of healthy long-lived generations. The western breezes find it, while Milton Hill protects it from the fiercer north-east blasts. It has a gravelly soil, which is well drained by the brook before named. In all respects have the time-honored geoponic conditions in the wool-yard, through the brook valley, and throughout the town, remained substantially unmo- lested, with this one exception.

For about ten years past this brook has been dammed at its entrance to the wool-yard, and the meadow above flowed, to procure a winter's crop of ice. The brook, thus broadened into a pond, has not been set wholly free after the ice-harvest, but only in part; and throughout each summer there has remained some small semblance of a pond. The same brook has for twenty-five years been dammed a mile higher up; but there the gate has been wholly removed after the ice-harvest, and the brook restored to its ordinary channel.

My second case occurred the next following year, in July, 1883. Mrs. J. M., aged about thirty-three, married, previously healthy, occupying with her family, consisting of a husband and three children, half of a one-story, two-tenement house on Clapp Street, in rear of the First Parish Church of Milton, was taken with a well-developed case of tertian intermittent.

This house, as will hereinafter appear, has been the seat of other cases of the disease. Its rear and westerly sides lie close to the border of a five-acre lot of woodland, mostly of young growth. This lot has had, of late, no visible drainage, though the land is relatively high. The making of Thatcher Street, parallel with and south of Clapp Street, in 1877, without any culvert, has cut off the wood-lot in question, lying between the two streets, from its former drainage into the run, and it has standing-water on a portion of its surface during the cold season, though dry during the heat of summer.

October 15, 1884, case No. 3 appeared on the Dorchester side of the Neponset, in the person of a married woman, aged about thirty, occupying rooms in a house on the northwestern corner of a several acre tract sometimes called the Lava Beds. This is a tract badly drained, like that mentioned. Years ago it was a marshy meadow. It has gradually been partly filled in causeway fashion, and an open drain, not deep enough for thorough drainage, traverses it from north to south, crossing under River Street to the river. The western side of this tract is cut off from even this poor drain, by the completion, without any culvert, of a causeway or projected street from Sandford to River Street, north to south.

The house occupied by my patient stands on the westerly side of this causeway, and is therefore included in the portion thus cut off from drainage. The filling-up has been gradual during several years, and its effectual completion was perhaps celebrated, not unpunctually, by the appearance of this typical case of intermittent at its gate.

In July, 1885, a seven years' old daughter of Mrs. M., in the Clapp Street house, had a chill followed by fever, but under treatment a second paroxysm was prevented. In August following, a man of fifty years

and more, living in the other tenement of the same house, had a succession of violent paroxysms of the tertian type, characterized by urgent vomiting and prostration in the cold stage.

This man has had a recurrence this year, and his adult son, without chills or fever, has become weak, and has the aspect of one with malarial cachexia. He has tenderness over the region of the spleen. Another child of Mrs. M., three years old, has recently had an attack, also of the tertian type, making the fourth or more probably the fifth case in the same house.

This autumn, the 21st of October, a case presented itself on the southern border of Vose's Grove, in Dorchester, in a new house built close to the northwestern corner of the salt marsh overlooked by Milton Hill. The patient was a boy of three years, and the form of the disease was quotidian. Within a day or two of the beginning of his sickness, an infant of fourteen months, in the same family, died after an illness of several weeks' duration, dating from a blow of a stone against the upper lip. This was followed by abscess and necrosis of alveolar portion of bone. I did not see the babe until a day or two before death, and my diagnosis was pyæmia. The sequel suggests the inference that malarial poison was a factor in the case.

The house stands on the southerly slope of a sandy knoll only recently occupied for dwellings. This knoll is a low promontory, half surrounded by marsh, and the house in question stands within twenty feet of tide-water when high tides cover the marsh.

Ebb and flow is quite unobstructed here, for the rail-road, passing through the grove, runs to the northward of this knoll. The water of the well has a marshy taste and smell.

Dr. Pierce's recent case was a man employed on the coal wharf in Milton, opposite Vose's Grove. He slept in the office at the head of the wharf.

This completes my brief summary of cases and their surroundings.

Two of the localities implicated are at the head of tide-water and near the edge of marsh. The other three present, as the only perceived condition differing from surroundings of an earlier time, artificial obstruction by dam or causeway to the natural drainage of adjacent soil. In the two places where a plurality of cases is recorded, it is probable that the water of the wells in use is injuriously affected.

## REPORT ON PROGRESS IN THORACIC DISEASE.

BY FREDERICK C. SHATTUCK, M.D.

SYSTEMATIC MUSCULAR EXERCISE AND LIMITATION OF FLUIDS INGESTED AS THERAPEUTIC AGENTS IN CERTAIN CONDITIONS CHARACTERIZED BY CARDIAC INSUFFICIENCY.

It is more than fifty years since Corrigan advocated the restriction of liquids in cardiac failure; more than thirty years since Stokes, apropos of incipient fatty disease of the heart in relatively young subjects, wrote: "The symptoms of debility of the heart are often removable by a regulated course of gymnastics, or by pedestrian exercise, even in mountainous countries, such as Switzerland, or the highlands of Scotland or Ireland." These suggestions of two of the greatest Irish masters of medicine are likely

now to bring forth fruit more abundantly, thanks chiefly to the labors of Oertel, the third German edition of whose "Handbook of the General Treatment of Circulatory Disturbances" is before us.<sup>1</sup> We cannot but regard this work as marking an epoch in the treatment of certain conditions involving, and more or less characterized by, cardiac insufficiency. While it is impossible here to do more than attempt an imperfect sketch of Oertel's ideas and the manner in which he carries them out, we hope to do our part in calling the attention of our readers to the book, and commending it to their thoughtful study.

The introduction begins as follows: "When the hydrostatic equilibrium of the columns of fluid in the various systems of pipes in the human body is lost; when the amount of blood flowing to the heart is no longer in accurate correspondence with the amount flowing from the organ; when the pump fails to propel onward all the fluid delivered to it, and the fluid is, consequently, dammed back, disturbance of the circulation follows, which must entail serious results to the organism unless they are rectified in some way or other. The immediate causes which underlie these disturbances are to be found either in the pump itself, the heart-muscle, in weakness of its contractile, and hence, of its propulsive power; in imperfect closure of its valves and contraction of its orifices; or else in one or another of the systems of pipes which has been so encroached upon as to be no longer able to hold the amount of fluid which it should, to wit: in feebleness of the muscular structure of the heart, in fatty conditions of the heart and general obesity, in disease of the valves of the left side of the heart, mitral insufficiency, and mitral or aortic stenosis; also in curtailment of the pulmonary circulation, whether due to emphysema, chronic interstitial pneumonia and bronchiectasis, curvature of the spinal column, pressure from pleuritic effusions or thoracic tumors."

To select from these conditions that which will afford the most obvious illustration, let us take the fatty heart, combined with general obesity. Twenty-seven cases have undergone Oertel's treatment, all with brilliant success. The patient has long indulged in larger quantities of nourishment, and particularly of fluids (beer), than he needed to balance equally repair with waste. Thus fat has been abundantly, though gradually, deposited in the overflow basins, the skin and omentum, about the kidneys and heart. The more inconvenient exercise becomes, the more it is curtailed, ingestion going on the same. Fat is deposited between, or even in the bundles of the muscular fibres of the heart. All this time the blood-mass has been slowly increasing, and greater demands are made upon the heart than it is able to meet. Dyspnea follows the slightest exertion, attacks of palpitation are frequent, oedema appears in the legs, the skin of which may become more or less deeply pigmented as another result of the chronic venous stasis; the urine is diminished in quantity, and is albuminous. In short, the condition of the patient is deplorable, and palliation seems all that can be fairly expected of treatment. Oertel's cases show, however, that an actual cure may be wrought by an intelligent physician in an obedient and courageous patient.

The blood-mass must be reduced by great limitation

<sup>1</sup> The work constitutes the fourth volume of Ziemesen's "Handbook of General Therapeutics." The first three volumes have already appeared in an English translation, published by William Wood & Co.

in the amount of fluid and careful regulation of the solid ingesta; by systematic exercise, preferably on foot, in the open air, and in a hilly region, and, perhaps, by vapor-baths or pilocarpine. Exercise diminishes the blood-mass, of course, by favoring perspiration and the discharge of water through the lungs; but it also promotes oxidation and nutrition generally, that of the heart-muscle, as well as that of the other organs and tissues. Absorption of the fat takes place, and the newly-formed vessels belonging to it disappear. The hydrostatic equilibrium is gradually restored, and the patient, who, at first, was able to walk only a very short distance on a level without being arrested by urgent dyspnea, can take long walks, up and down hill, with ease, and is restored to activity and usefulness. Especially during the early part of the treatment, thirst is apt to be more or less painful; but its gratification must be resisted, and the symptom grows less and less prominent as the equilibrium is approached. Relapses are, of course, to be guarded against by the permanent avoidance of excesses.

A study of the cases of general obesity, with weak hearts presumably abundantly enveloped in fat, detailed by Oertel, shows clearly that neither dyspnea, cyanosis, nor oedema, are contra-indications to muscular exercise. He reports, also, twenty-four cases widely varying in many respects, but all involving more or less serious and permanent organic changes, and all presenting the common features of impaired cardiac compensation and loss of hydrostatic equilibrium. The consideration of these cases forces the question upon us whether physicians generally do not inculcate rest in some cases of cardiac debility, where exercise, carefully graduated and carried out, is really indicated? Special emphasis is to be laid on the word *some*. We are fully alive to the vital importance of rest, as a general principle, in the treatment of heart disease. We know only too well that to err is human, and that it is, on the whole, wiser to err on the safe side. Still we must be constantly on our guard against the danger of putting our patients into the Procrustean bed of a general principle. The manner of life of the Germans, especially as regards the consumption of beer, favors the development of a larger number of those cases in which Oertel's treatment scores its most brilliant successes than does our manner of life and climate. Valvular disease, with imperfect compensation, is, however, equally common, and we repeat that, in some of these cases, we are convinced the principle of rest may be, and is, sometimes, carried too far.

The case of the late Lord Iddesleigh is one somewhat in point. For years he led a restricted life, in accordance with the advice of his physicians, on account of mitral disease; in 1855 he determined to disregard the advice, and for thirty years was in the thick of English political life, part of the time as a cabinet minister and leader in the House of Commons, finally dying at the age of nearly seventy. The lesson to be brought home to us in this is the importance of a careful study of each individual case coming under our care, and of a wise adaptation of our physiological, pathological, and therapeutic knowledge to the requirements of that case, considered, as far as is possible, as an individual, rather than simply as one of a class.

In closing, it may be of interest to mention that Case I, reported by Oertel at great length, is said to be that of the author himself, who, contrary to the adage, did not have a fool for his patient.

## THE PNEUMATIC CABINET IN PULMONARY DISEASES.

The aro-therapeutics of lung disease has never received anything like the attention in this country and in England which has been devoted to it on the continent of Europe, and especially in Germany. The invention and introduction of the pneumatic cabinet of Williams and Ketchum has stimulated experiment and research in this direction, and the medical periodicals have, in the last two years, contained many articles on the theory and practical application of the apparatus. I have purposely refrained from any mention of it in these reports up to the present time, in order that results rather than hopes of results might be dwelt upon. It is, of course, still too early for the formation of positive conclusions; but something is to be learnt from the reports which have come in. In the first place, a few words as to what the cabinet is and the claims of its projectors. We can then see how far those claims have been justified.

In using the apparatus of Waldenburg and its modifications, the patient, exposed to the ordinary atmospheric pressure, inspires compressed or expires into rarefied air. In the cabinet the patient is exposed at will to increased or diminished pressure, but breathes from and into air at the ordinary pressure. Pulmonary gymnastics are therefore a common feature of the two systems, and the benefits which are to be derived from increased dilatation and ventilation of the lungs are obtainable from either; whether these benefits are obtainable in equal degree from both systems we do not propose to consider.

The peculiar advantage which is claimed for the cabinet lies in the alleged facility with which, by its aid, medicated sprays can be thrown into the lungs, and compelled to condense within the minute air spaces. Mr. Ketchum, in a short paper on "The Theory of the Pneumatic Cabinet," says, "topical medication was the goal toward which the projectors devoted their energies," a goal which the discovery of the bacillus tuberculosis, like a telescope, brings more clearly into view.

Dr. V. Y. Bowditch,<sup>2</sup> who during ten months treated twenty-seven cases of various pulmonary diseases with the cabinet, says: "My opinion, then, of the pneumatic cabinet, may be thus briefly stated: that, although in my hands it has not accomplished, perhaps, all I had been led to hope, yet I still feel that it has, at least, shown itself to be a valuable aid to us in pulmonary therapeutics, and I look with hope to see what it can accomplish in the future."

Dr. Sidney A. Fox, of Brooklyn,<sup>3</sup> has treated sixty-nine cases, thirty-four of which were phthisis: seventeen of them improved, ten showed no gain, and seven died. He writes cautiously and fairly, and is evidently encouraged to persevere in the use of the apparatus. "Over and over again have patients said to me, after having been told that they could not be cured, 'Doctor, I would like to continue the treatment because it makes me feel better, and you do not know what a relief it is to be able to take a deep breath.' It is a point worthy of emphasis that patients to whom cod-liver oil had been intolerable have taken it without difficulty when exhibited in conjunction with this special method of local treatment."

Dr. Westbrook<sup>4</sup> says, "In regard to phthisis pulmo-

nalis: I believe that in the early stages of the disease the cabinet is capable of doing much good, and in many cases by arresting the morbid process."

Dr. Platt,<sup>5</sup> who was associated with Dr. Westbrook in using the cabinet, believes its main action to be, the air about the patient being rarefied, a reduction of pulmonary congestion. He says: "time and time again patients have come into the office complaining of the sputa being blood-streaked, and, almost without a single exception, the use of the cabinet has relieved the symptoms in the course of a few minutes." It may be stated here that all the reports show there is no danger of hæmorrhage being excited when the cabinet is used in the ordinary way—the air contained in it being rarefied.

Dr. A. S. Houghton,<sup>6</sup> of Chicago, reports on thirty four cases, twenty-five of which were phthisis in one or another stage. His conclusions are as follows:

"(1) Pneumatic differentiation is of undoubted service in all conditions of primary infiltration.

"(2) When the febrile movement has been unchecked for many weeks before treatment, improvement, if any, will show itself within the first ten or twelve applications; if there is no abatement of symptoms its continuance is of questionable utility, and it may be absolutely contra-indicated.

"(3) That phthisical disease at the apices is more favorably treated than when at the base of the lungs.

"(4) That it is possible by this means to more thoroughly medicate the lungs than by any other known method.

"(5) That the expansion of the lungs by differentiation is itself a therapeutic measure of great merit.

"(6) The peri-and-inter-vesicular exudation is capable of cure by this method, and even third stage phthisis is benefited, at least temporarily."

Dr. Herbert F. Williams, of Brooklyn, one of the projectors of the cabinet, furnished the first report as to its clinical use.<sup>7</sup> A more recent article by him gives a list of all reports up to the spring of 1886.<sup>8</sup> Of seven cases of phthisis classed as recovered in the first report, five had remained well without further treatment, for a space of nearly ten years.

It will thus be seen that those who have put the cabinet to practical use are unanimous in the opinion that it is of service as a means of exercising the muscles of respiration, expanding the lungs, promoting the absorption of diseased products, and diminishing congestion. They all appear to think, also, that by its aid medicaments in the form of spray can be applied to the mucous membrane of the upper air passages, and perhaps the larger bronchi. With regard to the possibility of topical medication of the air vesicles, however, "the goal toward which the projectors devoted their energies," we do not meet with so much unanimity. Dr. Williams tells us that the toxic effects of quinine, atropia, and mercury have been obtained by the use of the spray; but this does not prove that the air vesicles were reached. Deeper conviction is carried by an experiment he performed on a rabbit, inserting a tube in the trachea through which a spray containing China ink was directed; after ten minutes the animal was killed and the ink was found in the alveoli and sub-pleural spaces. Of course, in the human sub-

<sup>2</sup> New York Medical Journal, October 2 and 9, 1886.

<sup>3</sup> New York Medical Journal, June 19, 1886.

<sup>4</sup> New York Medical Journal, June, 1886.

<sup>5</sup> Jour. Am. Med. Assn., November 7, 1885.

<sup>6</sup> Jour. Am. Medical Assn., November 7, 1885.

<sup>7</sup> New York Medical Record, January 17, 1886.

<sup>8</sup> Journal of Am. Med. Assn., August 14, 1886.

ject much of the spray is arrested between the mouth and the upper part of the trachea.

Drs. Westbrook, Platt, and V. Y. Bowditch are all extremely skeptical as to the possibility of condensing a spray within the alveoli, and think that even if such penetration is secured the amount of medicament there deposited must be far too small to exert any germicidal effect, to say the least.

Our readers shall be kept informed as to the results of more extended use of the cabinet. No one will question the desirability of finding more efficient methods of combating a disease so common and so deadly as pulmonary tuberculosis.

#### THE BACILLI OF TUBERCULOSIS: THEIR ABUNDANCE IN SPUTUM WITH REFERENCE TO PROGNOSIS.

May<sup>9</sup> has made weekly examinations of the sputum of one hundred and thirty-nine tubercular patients in all stages of the disease, counting the bacilli in the preparations from each patient. The weight of the patients was also noted, and it was observed that decrease in the number of bacilli appeared much later than gain in weight; indeed, in many cases the bacilli increased in number at first, without any other unfavorable symptoms or signs. In two cases the number of bacilli decreased shortly before death, and in two others the organisms disappeared completely while the patients were losing weight and doing badly.

May consequently concludes that we can be sure of a loss of the power of vigorous growth on the part of bacilli in the lungs, only when, during months of observation, they gradually decrease in number—although a temporary increase may take place from time to time—and simultaneously the bodily weight and general conditions are improving.

#### PLEURISY ONLY A SYMPTOM.

Those of our readers who have studied in Germany must have all been struck with the doctrine there so generally held, that simple primary pleurisy is a very rare affection. This view is not so widespread in France, but has there adherents. Germain Sée, for instance, classes pleurisy among the infectious diseases. Landouzy<sup>10</sup> reports two cases confirmatory of this view, and formulates his opinion on the question as follows:

"(1) All demonstration is wanting of the dependence of acute primary pleurisy with effusion on exposure to cold, as is so commonly held.

"(2) Pleurisy attributed to exposure to cold is not a disease, like pneumonia, by the side of which nosogroups persist in placing it, but simply a morbid, and always secondary condition.

"(3) Pleurisy, whether acute in onset and characterized by large effusion, or local, subacute, or chronic, is a symptom of disease.

"(4) Without absolutely denying the occurrence of pleurisy as due simply to exposure to cold, I believe it to be most exceptional, as rare as it is thought to be common.

"(5) The part played by exposure to cold is, in pleurisy, as in erysipelas, pneumonia and zoster, quite subordinate: the true etiological factor lies in a cause which was latent until the day when the exposure took place.

"(6) This genuine etiological factor, this determin-

<sup>9</sup> Münch. Med. Wochschr., 1886. No. 25. Fortschritte der Medizin, 1887, p. 567.

<sup>10</sup> Revue de Médecin, July 10th, 1886.

ing cause is tuberculosis, often masked by the pleural effusion, and thus escaping recognition."

He goes on to say, further: "Any patient with pleuritic effusion is tuberculous, let him be vigorous, young, robust, and fat as you please; let him declare himself otherwise perfectly well and quite free from hereditary or acquired predisposition, unless the pleurisy can be attributed to an infection, (scarlet fever, puerperal fever, etc.), a dyscrasia (rheumatism), or a trauma (fractured rib, infarction)."

If this doctrine be true, all we can say is that tuberculosis is recovered from more frequently than has been supposed.

#### ACUTE PNEUMONIA IN UTERO.

Dr. Strachan<sup>11</sup> of Kingston, Jamaica, writes as follows: A patient, Nancy M., was admitted into the hospital under my care in December last, suffering from acute pneumonia (whole of left lung), and a history of illness covering the four days previous to admission. She was eight months pregnant. On the evening of the day of admission, her temperature was 103.6°, and she was delivered of a female infant. The infant died in less than twenty-four hours after birth with symptoms of acute pneumonia. A post-mortem examination showed acute pneumonic consolidation of the whole of the left lung. The mother made a good and rapid recovery.

[We do not remember having met with such another case in literature. It is to be hoped that the profession will be on the lookout for them in future, and endeavor to obtain autopsies on viable children born during an attack of pneumonia in the mother, but soon after succumbing. The transmission of the disease to the fetus proves conclusively that pneumonia is a general disease and not, as was so long and so universally held, a local inflammation.—REP.]

## Clinical Memorandum.

### TETANUS FOLLOWING ABORTION.

BY HOWLAND HOLMES, M.D., OF LEXINGTON, MASS.

I WAS rusty in the literature of tetanus, so far as to have no recollection that it ever followed child-birth or abortion as a cause, till it was forced upon my notice by the following case:

Mrs. M. was the mother of four living children, the youngest being thirteen months old. I attended her in her last two labors, which were quick and easy. They were preceded by a miscarriage between the births of the second and third child. About one o'clock on Monday morning of December 13, 1886, I was called to see her. She had had a quick miscarriage a few hours previous, of a four months' fetus, but the placenta had not come. It was not easy to deliver it without ether, and as the patient was averse to taking it and had ceased to flow, after losing an average amount of blood, I administered Flu. Ext. Ergot 3i, and left.

I saw patient again in the middle of the forenoon, and removed the placenta from the cervix uteri. With tepid water mildly carbolyzed, I syringed the womb, and enjoined on patient to syringe vagina every morn-

<sup>11</sup> British Medical Journal, 1886, p. 860.

ing with warm, carbolized water. There was no further pain or discharge, with the exception of a final fragment of placenta, Wednesday morning.

I saw her several times in the course of the week, and at my visit on Saturday, I found her so far recovered that my further attendance seemed unnecessary. She had had that morning free action from a dose of castor oil taken for slight headache, and was then anxious to know what her "bill of fare" might be.

The following Monday (December 20th), in the afternoon I was desired to see her quickly—"she could not open her mouth." Examination showed she could not part her teeth to admit a knife-blade or spoon-handle, the muscles of her face and neck were stiff and painful. She said two defective teeth had grumbled somewhat during the last few weeks, and possibly she had taken a little cold, to cause neuralgia from them. She had slept sweetly the night before, (Sunday night), had the best night's sleep she had had since she aborted. She had slept fairly Saturday night, and thought she should relish a piece of broiled steak for breakfast, but on making an attempt to eat it, she first found she could not fully open her mouth, and next that the process of mastication caused so much pain and discomfort that she was obliged to desist.

From that time her jaws became more and more clinched, and the muscles of the face and neck became more and more stiff and painful, till she and her husband lost confidence in her neuralgic theory and sent for me. I tried to believe it was neuralgia, but a horrid misgiving seized me. However, I tried to calm her fears, and prescribed volatile liniment.

She was worse at ten o'clock p.m., and I was again called. I had no longer any doubt I had tetanus to contend with, and asked for a consultation. At 11.30 p.m., a neighboring physician saw the patient with me, and after a thorough examination, reluctantly conceded that it might be a case of tetanus, but, like myself, he could not recall that it ever followed such a cause: Treatment was a continuation of morphine in  $\frac{1}{4}$  grain doses that I had commenced. We left her at 1 o'clock a.m., to meet again at 2 o'clock p.m., (Tuesday 21st). I saw her between 8 and 9 o'clock, that morning, finding her without improvement, and consultant saw her with me soon after 2 o'clock p.m. There had been some opisthotonos for twenty-four hours, and pain darted through from the sternum to the spine, extending down the shoulder blades, nearly the whole length of the back. From the first there was no tenderness in her bowels, but they were soft, flat, and natural, and, as they had been so thoroughly evacuated the previous Saturday, no effort was made in that direction. She passed water freely and with ease. Her mind was clear, and she was as calm and placid as her manner always was. By a forced effort she could part her teeth nearly a fourth of an inch on this day, but she sips but a few teaspoonfuls of milk or beef tea. Ether was given her, but the relaxed condition of the muscles of the neck and body only lasted while the influence of ether lasted. We gave nourishment, opiates and stimulants freely, but the patient died about 3 o'clock a.m., Wednesday, December 22d.

Professor Simpson, of Edinburgh, maintains that traumatic tetanus sometimes supervenes as a secondary obstetrical disease; regarding the interior of the

uterus, after abortion and parturition, as in a state of lesion similar to that of a wound on the external parts of the body.

## New Instruments.

### IMPROVED NON-OBSTRUCTING CANULA.

BY JOHN S. MILLER, M.D.,  
Assistant, Surgical Clinic, Jefferson Medical College.



THE frequent occlusion of the canula by intestine or omentum in the operation of tapping, has suggested the device shown in the cut. The stoppage generally occurs when about a pint of fluid has been withdrawn; and various manoeuvres are resorted to, such as the endeavor to float away the obstruction by changing the patient's position; or the dangerous one of introducing a probe through the canula, and generally without success.

The device to which reference has been made is a smaller and longer canula, introduced into that already in position, in case there is a cessation of flow. It is blunt, and provided with two long fenestræ. In the latter are springs, which expand and push away the obstruction on emerging from the original canula, and which are so solidly soldered as to offer no danger of breaking off in the abdominal cavity.

In reply to the query whether or not the gut can become incarcerated and wounded in the springs, it may be stated that, in several operations, no such accident has occurred, nor were efforts successful to bring such about upon the recent cadaver.

The instrument can be used with any trocar and canula above calibre No. 16, French. The instrument is manufactured by Charles Leutz & Sons, No. 18, North Eleventh Street, Philadelphia.

## Reports of Societies.

### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

MEETING December 6, 1886, Dr. DE BLOIS in the chair.

Dr. J. S. GREENE read a paper upon

THE APPEARANCE OF INTERMITTENT FEVER NEAR THE NEPONSET RIVER.<sup>1</sup>

Dr. HENRY I. BOWDITCH showed a rough copy of a map of a part of Chelsea, Mass., and gave a brief abstract of a report made by himself and the late Drs. John Ware and Ephraim Buck to the Suffolk District Medical Society, and which the Society ordered to be printed.<sup>2</sup>

<sup>1</sup> See page 202 of this number of the Journal.

<sup>2</sup> Boston Medical and Surgical Journal, January 26, 1883.

By said report was demonstrated the fact that four cases of apparently genuine intermittent fever had originated in houses built on land that had been shut from the salt water near the mouth of the Mystic River. This was brought about by the erection of a dam in 1789, for the purpose of reducing the territory to a good arable condition, instead of marsh land, as it had always been. The project was a failure. The territories thus cut off contained two hundred and seventy-five acres, and the town of Chelsea rests, in part, now upon it. In 1816 the Company opened again the gates of the dam, and the territory was again, but less perfectly than before, covered by the incoming tide, and left bare with its outflowing. This continued till 1845, when the Winnisimmet Company again shut the gates, and determined to use the land for building homesteads thereupon. The old windings of the marshes were left exposed. Pools of water still continued, varying from two or three inches to two feet in depth, while the sloping borders were of a hard-baked clay, covered, at times, with dead mollusks or sparse and thin grass. There was no offensive odor perceptible. Several fresh-water springs continued, one of which was not lower than 54° F. during the year. Within two years after this second closure of the dam, four cases of true intermittent fever were seen and attended by seven physicians resident in Malden, Chelsea, and Boston.

Finally, Dr. Bowditch alluded to a fact related in the journal of the Rev. Noadiah Russell, tutor in Harvard College, in 1682, in which he states that he had been attacked by the disease; and in 1683 he states that it had been very prevalent and fatal, all indicating that, formerly, Eastern Massachusetts suffered from it much more than it has suffered during the past century.

DR. BUCKINGHAM stated that he had recently seen three cases in his service at the City Hospital. Two of these patients lived on the same street, near the Roxbury line; the third was a child, living near the other two, and who had never been far from this locality.

DR. V. Y. BOWDITCH called the attention of the Society to the statements made by Crudeli, in his address before the International Congress at Copenhagen, embodying the results of his long study of malaria in Italy, that while a certain amount of moisture was necessary for the development of the fever, yet it is by no means confined to swampy, low regions, but is often met in comparatively high lands. Dr. Bowditch alluded to the case of intermittent fever which had occurred in the village of Elizabethtown, high up in the Adirondack Mountains, and had been reported to him by one of the physicians of that place. The speaker could not state absolutely that the patient had never lived elsewhere, but from the manner in which the case had been reported to him, he had understood it as having developed there.

DR. WHITNEY thought that it was an important matter to have these isolated epidemics thoroughly investigated by the Boards of Health, especially with reference to the presence of microorganisms in the blood of those affected.

DR. F. W. JOHNSON said that he had recently attended a case of remittent fever in a gentleman who had never lived elsewhere than in Boston. The case terminated fatally. His diagnosis was confirmed by a consultation.

DR. FOLSOM had observed that many cases occur in

comparatively elevated localities. In a small town in the western part of the State, all the cases were on the top of a hill. The conditions of low land and moisture are certainly *favoring*, but not the only conditions. So far, there have occurred over one thousand cases in this State. Before the disease had so definitely followed up the rivers, there were a number of cases among the students at Williamstown; but, tracing these up, it was found that all the students had formerly lived in a very malarial locality in Staten Island. It was the speaker's experience that persons living for a time in a well-developed malarial region might remain free from the disease, and then have it manifest itself after a year's residence in another place.

DR. WADSWORTH mentioned a case of malarial fever of a very severe type, which was contracted by a brief visit South, during the war, and did not appear for a year or more after the return North.

DR. DE BLOIS had had under his care a young woman of Dorchester, who developed the disease in quotidian form, which persisted for a long time after changing her residence to New Hampshire. The only thing that accounted for the disease was that the cellar of the house in which she slept was very wet. Dr. De Blois said, also, that the fact was well recognized, in the West Indies, that moving the soldiers from the barracks, up the mountains, three or four hundred feet, entirely prevented the development of the disease.

DR. FOLSOM said that the late Dr. Holmes, of Milton, had reported to him the case of a lady who had the fever while living at the South, where she married. Coming North to live, she never had any sign of the disease; but her daughter, born shortly after coming here, when a few months old, had it severely. There could be no question as to the correctness of the diagnosis.

DR. GREENE, in closing the discussion, said that he had, in the paper of the evening, considered only those cases which had originated in that locality. He had seen other cases in the town, but their origin was elsewhere. He mentioned the case of two young ladies just home from a boarding-school in Providence, one of whom had spent one day and one night in Philadelphia, and the other had made a brief visit near Providence, in a locality where the first cases in that State originated. Both of these ladies had the fever, but neither then nor subsequently were there any cases at their boarding-school.

DR. J. J. PUTNAM read a paper upon

#### CHRONIC LEAD-POISONING.<sup>2</sup>

DR. BOWDITCH said that a case had come under his observation, where the only discoverable source of the lead was the solder used in kettles in which the water was boiled.

DR. WADSWORTH mentioned a case of simple optic atrophy occurring in a painter, in consequence of lead-poisoning. Except this lesion, there were almost no other symptoms pointing to this source. He had slight numbness of the hands and rheumatism of the left shoulder. The tendon reflex was not altered. Within a year he had seen a case of optic neuritis, with paralysis of the muscles, from lead.

DR. SABINE inquired as to the length of time after which it was possible to detect lead after the drinking-water was changed.

<sup>2</sup> Publication deferred.

Dr. PUTNAM said that it depended upon treatment. As the lead forms an insoluble albumenate with the tissues, it may remain a long time unless eliminated by iodide. In one case there had been a space of over ten months.

Dr. SABINE said that he questioned if the introduction of water-meters would not increase the danger of lead-poisoning, as people, to economize, would not allow the water to run and clear the pipes.

Dr. FOLSOM said that this class of cases, when simple anæmia and obscure nervous symptoms are caused by lead-poisoning, instead of the typical symptoms, are deserving of most thorough investigation. Sometimes its influence is shown by peripheral neuritis, sometimes by myelitis. The speaker said that pure Cochituate water passing through lead-pipes was devoid of danger, as it is so free from soluble nitrates, but since the introduction of Sudbury River into our supply this security has vanished. There requires to be the greatest caution and experience in analysis for lead, and unless one can be sure of these points, results are always doubtful. The speaker also desired to emphasize the caution, that the ordinary period during which iodide is given is entirely insufficient to break up and eliminate the lead, and instanced a case in illustration.

Dr. WEBBER reported the case of a woman who had lead symptoms, and the source of the poisoning was traced to the hot-water pipes from which the cook filled the kettle in the morning. One case, still under observation, had been using iodide for more than two years, and lead still is present in the urine. In several cases he has observed loss of the tendon reflex, but not in all. The speaker questioned in certain cases presenting cerebral symptoms, such as loss of mental power, inability to fix the mind, headache, and so on, how much was due to cachexia, or how much to lead deposited in the brain. In one case of complete paraplegia, with lead in the urine, after making a decided improvement, the patient died.

Dr. WADSWORTH spoke of the effects of lead-poisoning upon the eye.

Dr. PUTNAM inquired as to whether rubber work was to be included among the dangerous occupations. He had had a number of cases.

Dr. WEBBER said that he had also had several cases.

Dr. PUTNAM, in reply to an inquiry, said that large quantities of litharge were used in the preparation of rubber.

#### BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

PHILIP C. JORDAN KNAPP, M.D., SECRETARY.

NOVEMBER 18, 1886, DR. H. R. STEDMAN in the chair.

Dr. W. A. GORTON read a paper entitled

##### TWO CASES OF CHRONIC ALCOHOLISM.<sup>1</sup>

Dr. BOLAND spoke of a case at the Boston Lunatic Hospital, where a fireman, addicted to alcohol and exposed to cold and wet, had an attack resembling acute mania. On recovery, he suffered greatly from shooting pains in the legs. He was treated with faradism, and made a complete recovery. No diagnosis was made at the time, but, on looking back at the case, it seemed like neuritis.

Dr. LANE said that he saw many cases of alcoholism,

<sup>1</sup> See this Journal, page 201.

but little neuritis. He asked if these patients had the characteristic delirium.

Dr. GORTON said that they had not. One man thought that he would be all right if he could get up. Delusions of identity were common to both. In answer to Dr. Channing, he said that there were seven or eight similar, but less pronounced cases at Danvers. Five of them had some ataxia. The patellar reflex was seldom wholly gone, and they seldom had lancinating pains. Most of them recovered more or less completely. The second case was hardly a true myelitis, but it had all the symptoms of myelitis, except that the temperature was low. The patient had some irregular elevations of temperature, due, perhaps, to his bedsores. The first case came under observation a week after giving up alcohol, the second two or three weeks after.

Dr. CHANNING said that it was curious to find that the disease could be so far advanced while the patient remained outside of an institution. In the second case syphilis may have had some influence, but it is a question whether it would still modify the symptoms after seventeen or eighteen years. He had, however, recently seen a case where the only explanation was syphilis incurred fifteen years before. The patient could not take large doses of anti-syphilitic remedies. He asked if there were many dipsomaniacs at Danvers.

Dr. GORTON said that he had had sixteen in the last year. He tried to keep them sober, but otherwise he could do but little. The periods were usually short, and the friends, who were very annoying, asked for their discharge in from one to seven days after admission. The patient is apt to do as well in a week after getting sober as he is in six months; but, with many cases, it is useless to commit them, as they "celebrate" as soon as they get out. Before the law was passed, he used to get chiefly cases of delirium tremens. The present law says that the patient shall be otherwise of good repute, but this was sometimes disregarded.

Dr. J. B. AYER said that the greatest benefit he had seen in any case of alcoholism was in a man who was put on a farm, a long way off, but he now has an occasional spree. He asked what was Dr. Gorton's treatment of delirium tremens.

Dr. GORTON said that bromide and chloral did as well as anything. Chloral was pretty safe, although he had seen death follow a dose of fifteen grains in a patient with fatty heart.

Dr. AYER thought it well to add something to the bromide and chloral, to avoid the depressing effect; coca, however, causes wakefulness. He asked if Dr. Gorton broke off the use of alcohol at once.

Dr. GORTON said that he did except in the restless, typhoidal state, where milk-punch was given freely. Dr. James P. White, of New York, used to control jactitation, restlessness, and discomfort, by half a drachm to a drachm of tincture of lupuline, in addition to bromide and chloral. Coca was little used; in melancholia, patients sleep less well after it.

Dr. CHANNING said that he had tried hyoseyama in two or three cases some years ago, but, at first, it had a bad, exciting action, and later it was depressing, the pulse becoming weak and rapid.

Dr. BOLAND said that bromide and chloral were given at the House of Correction *pro re nata*. They also gave a drachm of a mixture containing twenty minims each of the tinctures of digitalis, hops, and capsicum.

DR. AYER said that large doses of digitalis were now abandoned.

DR. KNAFF said that he had seen digitalis used in doses of one to three drachms without any apparent ill effect. He had taken full doses of coca himself, in order to produce wakefulness, but without the slightest effect; idiosyncrasy, however, might have some influence, as strong coffee never had any effect on him. In his experience, alcoholic neuritis was quite a common disease. Beside the degeneration in the peripheral nerves, some investigators had also found changes in the cortex cerebri. In a number of cases he had seen the characteristic delusion described by Dreschfeld. The patients, who were unable to stand, would tell long stories of visits made that day to distant places, and give details of the people they saw and the conversations they held. They were also very lachrymose and hysterical. He was disposed to doubt the diagnosis of myelitis in Dr. Gorton's second case, as the patient recovered. In a number of cases of alcoholic neuritis, where the mental disturbance was marked, he had seen incontinence of urine; and, in a case of multiple neuritis with no alcoholic history, due perhaps to exposure, which he had seen in the summer, there had been a small bed sore. In some cases of alcoholic neuritis, the mental impairment, the ataxia, and the fibrillary tremor of the face and tongue, were such as greatly to resemble general paralysis; in fact, the French speak of a pseudo-general paralysis of alcoholic subjects.

DR. STEDMAN said that the resemblance to a general paralysis—seen, for instance, in Dr. Gorton's first case—was interesting. In some cases reported the resemblance was very marked, the patients having unequal pupils, ataxic gait, ambitious delirium, etc. The only point of distinction was that the alcoholic cases did not have the characteristic disturbances of speech. Large doses of digitalis were not mentioned now, as they had proved too dangerous. He asked if the reader found many cases of the true disease, dipsomania, not mixed with habitual drunkenness, as a result of depravity.

DR. GORTON said that the cases were hard to distinguish. He had seen one case of dipsomania—a capable man, with every desire to lead a proper life, who had a sudden, inordinate, irresistible craving for drink. He would begin to drink, and keep on until everything had gone; then he would be filled with intense remorse, and would contemplate suicide. He had had two attacks of delirium tremens. He would get better, stay all right for a number of months, and then go on another spree. For a time he worked hard in a gravel-pit, and did not indulge; then he went to Salem, and broke down again. He had no taste or appetite for liquor; it was a solitary habit with him, and the only satisfaction he got from it was to gratify his craving. Other cases—and these make up the bulk of the cases seen—go off on a spree to have a "good time with the boys."

—The population of France, by the census of May last, whose data are just published, shows a population of but 38,218,000, about 10,000,000 less than Germany. The increase for the last five years was but 540,000, against 770,000 in the preceding given quinquennium. The diminution is said to be due to Malthusian principles.

## NEW YORK COUNTY MEDICAL ASSOCIATION.

ANNUAL meeting, January 17, 1887.

After the annual reports of the Executive Committee and of the Treasurer had been read, DR. HERMAN M. BIGGS read a paper on the

### HISTORY OF AN EPIDEMIC OF DYSENTERY AT THE ALMSHOUSE, BLACKWELL'S ISLAND, NEW YORK.

In the years 1884 and 1885 there was some dysentery in this institution, though not of an epidemic character; but an examination made by an inspector of the New York Board of Health showed the sanitary condition of the buildings to be good. Some closets, which were undoubtedly the cause of the trouble, were not, however, inspected, as they were somewhat separated from the other buildings, and did not attract attention.

The epidemic in question commenced early in June, 1886, and the cases increased in number and severity until the 15th of July, when Dr. Biggs went on duty. At this time, from twelve to fifteen new cases of severe dysentery appeared each week in the female almshouse, and the weekly number of deaths from the disease amounted to five or six. Believing, as he does, that dysentery in the vast majority of cases is an infectious disease, due to some definite determinable cause, he immediately made a careful inspection of all the buildings in the institution, as well as of the food and water supplied to the inmates; examining thoroughly into all the conditions which might possibly bear upon the development of the disease. Aside from the element of over-crowding, nothing could be found to which importance could be attached as regards the causation of the epidemic, with the exception of one water-closet, in general use by the female inmates. This was separated from the main building by a road-way, and had a large cemented brick vault, with a sewer about one foot in diameter, leading from it to the river below, which was found to be in an exceedingly bad state. On entering the door the stench from it was so strong as to be almost intolerable. The vault was flushed by the water from the bath-house, which is in the same enclosure, and by rain-water from the roof of the main building. At the time of the examination the vault contained two or three feet of semi-solid fecal matter. During the early part of the summer the weather had been very dry; so that the supply of water from either source was very small. As far as could be learned, the closet had not been cleaned since the autumn of the preceding year, and it was ascertained that the outlet into the sewer mentioned was eighteen inches above the lowest portion of the bottom of the vault, which was round. Moreover, the sewer was found to be partly stopped up; and when it was remembered that the closet was in constant use by nearly eight hundred persons, some idea could be gained of the conditions prevailing at the time.

At Dr. Biggs's request, the closet was immediately washed out and disinfected. At the same time orders were given for the careful disinfection of all beds used by patients who had suffered from dysentery, and who had been removed to the hospital; and as each person in the wards was furnished with a separate vessel, a solution of bichloride of mercury was ordered to be placed in the vessels of all who were affected with diarrhea in any form. The good effect of these

measures was immediately apparent, for while there were thirteen deaths from dysentery in June, and seventeen in July, there were only four in August, and none at all in September, until the 25th of the month. In fact, only one death occurred among those who were attacked with dysentery after the closet was cleaned, and in this case the immediate cause of death was cerebral hemorrhage. From August 10th to September 25th, no new cases appeared. During the interval between July 18th and September 15th, the closet was cleaned a number of times. For about ten days preceding September 25th, the closet was not cleaned, and at this time a number of new cases and several deaths occurred. Certainly, more conclusive proof could scarcely be desired of the causative relation existing between the condition of this closet and the appearance of the epidemic.

But there were still other facts that pointed strongly in this direction. Among the inmates of certain wards who made use of a closet in the main building, which was provided with school-sinks and was in excellent condition, very few cases of dysentery occurred at any time during the summer; and it was ascertained that among these few in every instance those affected had used the general closet referred to, at least a portion of the time, while not a single case appeared among those who used exclusively the closet in the main building. Again, no cases of dysentery occurred during a period of nearly seven weeks, from August 10th to September 25th (when the closet was kept clean), at a time when a larger number of cases would naturally be expected than in June or July. Thus, in September, 1884, more cases occurred than in any one of the summer months.

In some of the several cases of dysentery, as shown by the post-mortem lesions, there were, so far as could be learned, neither tenesmus nor blood nor mucus in the stools at any time during the course of the disease. A comparatively large number of autopsies were made, and there were always present practically the same lesions, namely, those of a very severe follicular and diphtheritic dysentery. The lower part of the descending colon, the sigmoid flexure, and the rectum, were in the majority of cases the parts most seriously affected; but the ulceration always involved, to a certain extent, the other parts of the mucous membrane of the large intestines, and in a number of instances had extended for almost eighteen inches up into the ilium. In some of the more severe forms of the disease the largest part of the mucous membrane was entirely destroyed by the enlargement and coalescence of the follicular ulcers combined with the ulceration following a diphtheritic inflammation. The process in the portion of the small intestine referred to, was for the most part of a diphtheritic character. In the cases where the disease pursued a more chronic course, the walls of the large intestines were greatly thickened and infiltrated with inflammatory products, while the mesenteric glands were enlarged.

Having described the clinical history of the severe cases, Dr. Biggs said that the treatment which was most successful in all except the later stages of the disease, when it became chronic, consisted in a combination of castor oil and opium with a strictly milk diet. In the later stages, bismuth or nitrate of silver and opium were given. In addition to these remedies enemata of starch and opium were used in some cases. Cocaine was also added to these enemata in a few in-

stances. Enemata would have been used on a large scale had it not been for the fact that they could not be given satisfactorily by the nurses in charge.

This epidemic of dysentery he thought was interesting from the almost conclusive evidence presented of the causal relation existing between the exposure to the emanations of decomposing human excreta and the appearance of the disease. There could be no doubt, in his opinion, that epidemic dysentery was an infectious disease, due to the action of some definite micro-organism. There was much evidence to show that dysentery, under certain conditions, is contagious; but, apparently, like typhoid fever, it was generally a miasmatic contagious disease propagated by the stools of dysenteric patients. The difficulty of isolating from the stools the specific micro-organism which causes any disease of the alimentary canal was very great, and Dr. Biggs, in conclusion, expressed his regret that he was not able to make any satisfactory investigations on this point.

The President, DR. CHARLES A. LEALE, said that he had often met with obstinate cases of follicular enteritis and dysentery in some of the most expensive houses in New York, and that in most instances it was ascertained that the cause of the trouble lay in some defect in the drainage. He had known of a number of houses about which there seemed to be a fatality; since several persons who had previously been in good health successively died of this kind of disease, after becoming residents of them.

The Secretary, DR. P. BRYNBERG PORTER, said that a few years since he had occasion, in connection with the State Board of Health, to investigate an epidemic of dysentery occurring in a village on Long Island, in which it was found, by expert analysis, that in every instance the well-water of the premises where the case occurred was contaminated; and it was ascertained, furthermore, that the position of the privy in reference to the well was such that defilement of the drinking water by human excreta was possible. His report of the outbreak was published in the Second Annual Report of the New York State Board of Health (1882).

DR. J. W. S. GOULEY read a paper entitled,

#### A PROTEST AGAINST INDISCRIMINATE MEATUS CUTTING.

Of late years, he said, the import of such consequences of urethral strictures of the balanic region such as dysury, vesical irritation, and reflex neuroses, had been greatly overestimated, and this had often led to very rash and unwarranted surgical interference. Meatus cutting, or to give the operation a proper technical name, porotomy, has become the fashion, and every adolescent and adult who is not afflicted with congenital hypospadias must have his meatus cut; for he is told that the nozzle of his urine-hose must be of greater calibre than the hose itself. The doctrine that the meatus should be the largest part of the urethra, Dr. Gouley contended, was not only unsound, but most dangerous, and it was leading to much evil. It was, therefore, high time to protest against the indiscriminate performance of porotomy, and particularly against those incisions which resulted in deformity of the urethra. The congenitally narrow meatus is very often met with, and yet comparatively few patients were ever inconvenienced by this defect. In many cases the meatus barely admitted a catheter of

the diameter of three or four millimetres; and when this condition of affairs was present it was, of course, necessary to enlarge it by incision to a degree sufficient to permit the easy passage of evacuating catheters, or of a fair-sized lithotrite, should the presence of a vesical stone render necessary the use of such an instrument. But to incise through and through the whole balanic region was, he thought, as unwarranted as it was unsurgical. Many men with an abnormally small meatus would never become aware of that fact but for the occurrence of an attack of urethritis.

Strictures of the balanic region were not ordinarily amenable to treatment by dilatation, but required incision; which was the most prompt and efficient method that could be employed for their eradication.

The incision, however, should be directed and proportioned in accordance with the size of the glans and the condition of the extremity of the urethra. When, for instance, the meatus was normally situated, a sufficiently free central cut along the floor of the urethra answered the purpose of simply enlarging the contracted urethral extremity within proper limits; but when there happened to be a slight balanic congenital hypospadias, this kind of incision only increased the deformity, and failed to relieve the stricture; which could be successfully treated only by bilateral perotomy, performed in such a way as not to increase the hypospadias.

The probable object of these extremely free incisions of the urinary meatus was, that instruments of extremely large calibre might be introduced through strictures of the deeper parts of the urethra. This was another of the many prevalent surgical heresies. The ostensible reason for this over-stretching of the urethra was that the stricture or strictures might not recur; but the careful observation of many cases treated by the introduction of sounds of the diameter of eleven, twelve and thirteen millimetres, into the average human urethra, showed that while the stricture in some instances did not recur, the urethra, as an organic channel, was entirely spoiled. It became, as compared with a normal urethra, what an old, worn-out, hardened rubber-tube was to one which had just come out of the maker's hands. The urethra, when constantly distended, soon lost a very considerable number of its mucous follicles, and became dry, leathery, inelastic, patulous, and no longer capable of successfully propelling the urine, which slobbered out of a wide mouth instead of being forced in a well-formed stream through a narrow outlet. The genital functions were also said to be impaired by this over-distension of the urethral canal. Dr. Gouley considers that it is never justifiable to over-distend the whole urethra. Useful instruments, he said, had been devised to obviate this evil, which were so constructed as to over-distend the strictured part of the urethra only, and save injury to the normal part of the canal, but they were but little used. Dilating instruments of this kind he thought should be occasionally employed during the treatment of strictures in the deep urethra; but the main object of moderate dilating catheterism was to restore the urethra as nearly as possible to its normal suppleness.

At the conclusion of the paper Dr. Gouley presented the photograph of the penis of a patient who had been in Bellevue Hospital for some months, which he said furnished an excellent illustration of these enormous perotomies. In this instance the whole of

the balanic portion of the urethra had been cut through and through; thus constituting a marked case of traumatic hypospadias made with the design of relieving a stricture in the part, which, it was needless to say, had not been accomplished. This was only one out of at least fifty such cases that he had observed; but it would be readily understood that he himself pleaded guiltless of the operation.

The paper was discussed by Drs. John Shady, Isaac E. Taylor and Alfred L. Carroll. The latter remarked that it had always seemed to him that Divine Providence did not quite intend that the mouth of the urethra should be made to resemble the shape of an old-fashioned blunderbuss. The idea that it should be was opposed to common-sense; and he was glad to have the opinion which he had formed confirmed by so high an authority as Dr. Gouley.

Dr. FRANK GRAUER presented a specimen of

#### EXTRA UTERINE PREGNANCY.

in which the seat of the development of the ovum was in the Fallopian tube, close to its exterior orifice. The patient, a lady of twenty-six years, in her third pregnancy, had died very suddenly from rupture of the cyst, and the diagnosis was made before death. At the autopsy the fetus, which was apparently of the age of seven or eight weeks, was found among some clots in the abdominal cavity. There were three points of special interest about the specimen, namely:

- (1) The presence of a decidua vera in the uterus.
- (2) The sympathetic enlargement of the walls of the uterus.
- (3) The thickening of the posterior part of the Fallopian tube at the point of the rupture.

Dr. BIGGS, presented for Dr. E. G. JANEWAY, who was unable to be present, a specimen of

#### PRIMARY CARCINOMA OF THE CYSTIC DUCT,

with abundant secondary carcinomatous deposits in the liver and the stomach. The special points of interest were, the primary growths in the cystic duct, which is a rare location for such trouble, and the marked difference between the primary and secondary growths; the former being so insignificant as almost to escape notice, while the latter was of the most extensive character.

#### THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, January 20, 1887.

Dr. J. H. RIPLEY read a paper on

#### THE VALUE OF QUININE AS AN ANTIPIRETIC IN PNEUMONIA.

The experiments on which his observations were based were commenced, in 1877, at St. Francis's Hospital, New York, and had been continued since by successive house-physicians, acting under his direction. Although many more had been made, the experiments available for the purpose designed were forty-eight in number, conducted in patients varying from nineteen to forty-five years of age.

The plan carried out was to give quinine as early as possible in the course of the disease; but only in complicated cases, and in those in which the temperature was, at least, 103°. Each patient was watched for several hours before the experiment was commenced, and all the observations of temperature were taken with

the thermometer in the rectum. The experiment lasted less than four hours, and the majority were continued for from twelve to fifteen hours. The time of day at which the quinine was administered varied; but when a single dose was used in the twenty-four hours, it was given in the morning. In twenty of the experiments a single dose of twenty grains was given; and in eight, a single dose of forty grains. It was usually given in solution; but, in some instances, was used hypodermically. In two of the patients there was no reduction of temperature whatever noted after the use of quinine; and in two a slight elevation occurred. The reduction of temperature effected by the quinine never lasted for more than from two to four hours.

The effect of the remedy on the pulse and respiration was not a constant guide to its effect on the temperature. It varied in different cases, but the pulse and temperature were usually reduced in frequency. In about half the cases, the temperature was lowered between one and two degrees under the use of quinine. In the other half, the reduction was less than half a degree. In many cases the antipyretic effect of the drug was only apparent; and the reduction of temperature was, in reality, due to natural causes.

The conclusion arrived at by the author was that quinine was a feeble and uncertain antipyretic in pneumonia. But this was not all. It had a bad effect on the appetite and digestion, and not infrequently excited nausea and vomiting. In addition, it was liable to produce marked cardiac weakness, profuse cold perspiration, and profound nervous depression. Opisthotonos was noticed in one instance, and in many cases it caused epistaxis. In three cases the urine was examined before and after the ingestion of large doses of quinine; and in one, the urine, previously normal, was found to contain large quantities of albumen, hyaline casts, and renal mucus, after the use of the drug. These bad effects, he thought, more than counterbalanced any good effects that could be attributed to it.

Moreover, Dr. Ripley could not see that it had, in any case, shortened the natural course of the disease. In some instances the pneumonic consolidation had extended under its use. In general, he believed that too much importance was, at the present day, attached to the reduction of temperature in febrile diseases. In typhoid and other fevers, much better results had been obtained at St. Francis's Hospital since heroic measures for reducing temperature had been given up. That quinine had any effect in preventing cell-migration, as claimed by certain authors, he thought was extremely doubtful. In conclusion, he expressed the opinion that large doses of quinine in pneumonia should be abandoned. If an antipyretic effect were required, we possessed much more efficient agents of this class in antipyrine and salicylate of sodium.

DR. MARY PUTNAM JACOBI read an abstract of a paper on the use of quinine in the pneumonia of children, which she had presented at a recent meeting of the Section on Practice. Of one hundred cases of broncho-pneumonia in children, of which she had notes, fifty-nine were available for statistical purposes. They were treated in the out-patient department of Mt. Sinai Hospital, and their average age was two and one-half years. Seven deaths were known to have occurred. She spoke of the effect of quinine on the physical signs and on the fever, and said that no decisive results could be gathered from the cases. Five grains,

night and morning, seemed as efficient as larger doses in children. The conclusion that she arrived at was that quinine was not to be relied upon as an antipyretic in the pneumonias of children; and that it was an efficient remedy only so far as it affected the morbid process present. It did tend, she thought, to limit the secondary extension of the disease.

DR. R. C. M. PAGE, Secretary of the Section on Practice, reported some remarks by Dr. J. Lewis Smith at the meeting of the Section referred to. Dr. Smith said that, as Dr. Mary Putnam Jacobi's cases occurred in dispensary patients, it could not be known whether the quinine was vomited or not. This drug was exceedingly liable to excite nausea in children; and the best way that he had found to administer it was in connection with wild cherry bark. He was in the habit of giving one large dose, with a view to preventing cell-migration, after which he preferred to give it in doses of from one to one-and-one-half grains every four hours. It was a useful tonic, and he thought it prevented secondary lesions.

DR. FRUITNIGHT said that it had been the common practice to give quinine for almost everything; but since the introduction of other antipyretics, he thought the tendency had been to discard it to a large extent. The reaction was like the swinging back of the pendulum, and it seemed to him that it was the part of wisdom to pursue a middle course. This experience with quinine as an antipyretic in pneumonia coincided with that of Dr. Ripley; but, at the same time, he intended to continue to use the drug in this disease, not for its antipyretic, but for its sustaining, effect. To secure this, it should be given in small doses. One great danger in pneumonia was cardiac failure; and, in large doses, quinine was supposed to have a tendency to produce this.

DR. F. A. CASTLE said that his experience fully bore out that of Dr. Ripley, as to the uselessness of quinine in pneumonia. Ten years ago Bing had recommended it in large doses; giving as much as seventy grains in twenty-four hours. Personally he had never carried it to this extent, but he had used it in as large quantities as the stomach would bear. He had found, however, that if the temperature was to be reduced by quinine, it must be at the expense of the nutrition of the patient. In the broncho-pneumonia of children, if carried beyond tonic doses, it had a bad effect upon the stomach, and also tended to produce delirium. For the last five years he had almost entirely abandoned this remedy in pneumonia. As regards sustaining the heart, he thought one had a much more reliable agent than quinine, in digitalis.

DR. BILLINGTON said that, like Dr. J. Lewis Smith, he had found quinine very apt to produce vomiting in children, and he had therefore found great satisfaction in giving it in the form of a suppository. In case any rectal or anal irritation were caused by this method, it could easily be entirely avoided by the use of a simple apparatus provided with a piston-rod, which could now be obtained for the purpose. By employing this, the administration could be kept for any length of time desired without the slightest inconvenience. He therefore considered the method of giving quinine by the rectum one of great practical value. In pneumonia he had been disappointed in quinine as an antipyretic, and he had also found that its use was attended with other bad results. In children the natural tendency was to recover, both in broncho-

pneumonia and in ordinary pneumonia, and a large number of cases would get well without any treatment at all.

DR. L. EMMETT HOLT said that of twenty cases of pneumonia in children, treated by him with quinine or cinchonidia, in twelve the drug was given in sufficient doses, and for a sufficient length of time, to enable him to form some opinion of its action; and in nine it was a total failure, so far as any effect upon the temperature was produced. He gave as much as sixteen to thirty grains a day to children from one to one-and-a-half years old; and in two or three cases the temperature rose steadily after the quinine had been taken. His own feeling was, that as an antipyretic, quinine in small doses was useless, and in larger doses dangerous. When the fever was high much better results could be obtained from the judicious and continued use of the cold pack. By this means he had been able to save a number of children whose cases were apparently hopeless. Unless the temperature reached a very high point, however, he was doubtful about the efficacy of antipyretic treatment in pneumonia. For the past two years he had abandoned quinine entirely in acute pneumonia, as he had found that it almost always gave rise to vomiting and other bad results; and since he had discontinued its use he had met with at least as good, if not better, success in his treatment. Quinine, however, was of very marked advantage in convalescence and in protracted cases of bronchopneumonia, if given in small doses.

The President, DR. A. JACOBI, said that he had seen a number of changes in professional opinion concerning quinine, since he commenced practising in New York, thirty years ago. At that time it was given in doses of half-a-grain or a grain to adults, and in smaller doses to children; and much was expected from it. It was true that a large number of cases got well; but they were the kind of cases alluded to by other speakers in which the natural tendency was to recovery. It was only in the bad cases, however, that we could judge of the real effect of a remedy. At that time, and ever since, he had been in the habit of giving six, eight, ten and twelve grains of quinine to children, and it was his practice to administer it deliberately at certain times of the day. He usually gave full doses in two installments in the morning, when the remission occurred: say five grains at eight, and five at eleven. If it did not affect the stomach unfavorably, however, he would give a single full dose in the morning.

He thought that a good deal of the inefficiency of the remedy which had been spoken of, was due to the condition of the stomach incident to the febrile state, which prevented it from absorbing; and thus the quinine was not digested. The same was true of the condition of the rectum. Therefore, he preferred to give it hypodermically; and when this method was used the good effect of the drug was apparent in a short time. A reduction of temperature could thus be effected, which was impossible with quinine used in any other way. The best preparation for hypodermic injection was the carbamide, on account of its great solubility. There was no use in giving quinine if the temperature did not rise above 102; and it was to be borne in mind that it should by no means be given in every case of pneumonia, but only in occasional instances. In many cases, when the fever was high, antipyrine was excellent.

DR. RIPLEY said that in quite a large number of the cases referred to in the paper, the quinine was given by hypodermic injection; yet the result was the same as in the other cases. The muriate in strong solution was the preparation employed. In many of the protracted cases to which reference had been made in the discussion, he believed that there was an associated pleurisy, and this is often a difficult thing to recognize in children. As to the use of antipyretics in general, he said that in an asylum with which he was connected, sixty cases of measles had recently occurred. A considerable number of them were treated with antipyrin, but it soon became apparent that these children did not do as well as those treated by the ordinary simple methods.

DR. JACOBI remarked that it was not safe to use too concentrated a solution of quinine for hypodermic injection, and related a case he had met, in which, at the autopsy it was found that the quinine was all deposited in the cellular tissue, the water of the solution only having been absorbed.

### Recent Literature.

*Clinical Manual for the Study of Medical Cases.* Edited by JAMES FINLAYSON, M.D. Second Edition, Revised and Enlarged. With 158 Illustrations. Philadelphia: Lea Brothers & Co. 1886.

Although this book has been revised, re-written in parts and considerably enlarged, it still retains the characteristics of a genuine *manual*, and that is absolutely essential in a work whose aim is to "afford such assistance as students, actually working at clinical medicine, might seem to require."

The volume is practically the product of the Glasgow School of Medicine. There are five contributors beside the editor; all six contributors, with one exception, are connected with the Glasgow medical institutions. Among the contributors we find the well-known names of Drs. W. T. Gairdner and Joseph Coats. To students of clinical medicine this book can be recommended as a convenient and suggestive one.

*Handbook of Practical Medicine.* By DR. HERMANN EICHHORST. Volume IV. Diseases of the Blood and Nutrition, and Infectious Diseases. Seventy-four Wood Engravings. New York: Wm. Wood & Co. 1886.

This is the December number of "Wood's Library of Standard Medical Authors." The title-page gives a quite distinct idea of the scope and contents of the volume; a statement which is not necessarily a truism. The division on diseases of the blood includes diseases of the blood-producing organs, meaning thereby diseases of the spleen. Diseases of nutrition are represented by obesity, gout, diabetes mellitus and insipidus, rickets, osteomalacia, and arthritis deformans.

Infectious diseases are divided into (a) those with typical localization, and (b) those with variable localization, under which latter head are placed tuberculosis, syphilis, leprosy, diphtheria, and the zoonoses, namely, diseases communicated from animals to men.

The question of treatment is not neglected under the different headings. The illustrations are numerous, well selected and fairly executed.

*Wear and Tear, or Hints for the Overworked.* By S. WEIR MITCHELL, M.D., LL.D. Fifth Edition, thoroughly Revised. Philadelphia: J. B. Lippincott Co. 1887.

We welcome another edition of this little brochure, which originally appeared as a magazine article fifteen years ago. Its object is to warn the writer's fellow-countrymen against what is still their besetting sin—especially in the northern half of the United States—namely: overwork, excessive haste and excessive waste.

To this physiological iniquity our political and social institutions, as well as our climate, impel, and it will be a long time before the proportion of the population in sore need of the gospel which Dr. Mitchell preaches will be sensibly diminished, notwithstanding certain indications of a tendency in the right direction.

This is the kind of tract we should like to see widely distributed by some society for the propagation of health and happiness at home. We suppose, however, that the legacies will still go to the enlightenment of the distant heathen in regard to everlasting punishment.

*Diseases of Tropical Climates.* Lectures delivered at the Army Medical School. By WILLIAM CAMPBELL MACLEAN, M.D., C.B., Professor of Military and Clinical Medicine, in the Army Medical School, Netley. London and New York: MacMillan & Co. 1886.

As the title implies, this volume of 337 12mo. pages, is made up of lectures delivered before the students of the Army Medical School at Netley, near Southampton, England. It will most naturally find its readers among the class of men to whom the lectures were originally addressed. The diseases treated of are the fevers, diarrhoea and dysentery, cholera, beriberi, guinea-worm, diseases of the liver, malaria, insolation. In a word, diseases which, though not peculiar to, are all very prevalent in British India.

The lectures are necessarily somewhat elementary, and attention is directed to such points as may be practically useful to the future surgeon in the British army. The very latest and most fashionable medical novelties are conspicuously absent, and an attitude of marked reserve, amounting even to neglect, is exhibited towards specific disease-germs. In connection with beriberi no mention is made of a microbe; in regard to the spirillum of relapsing fever the impression is given that it has not been successfully inoculated upon monkeys, the reverse being the case, and that it is probably simply an epiphenomenon; Kleb's bacillus is mentioned in the lecture on typhoid fever, but the later and better accredited bacillus of Eberth and his followers is not referred to; Marchiafava's investigations are barely alluded to, and his colleague (Celli) in the study of the *plasmodium malarie* is apparently concealed under the name of Valenti.

Dr. Maclean has always held, he states, that typhoid fever can arise *de novo*, but the examples which he gives in support of such a conviction are not very convincing. The absence of an index would be a drawback to the general usefulness of the book.

*On Fevers, their History, Etiology, Diagnosis, Prognosis, and Treatment.* By ALEXANDER COLLIE, M.D. With Colored Plates. Philadelphia: P. Blakiston, Son & Co. 1887.

Dr. Collie was for many years resident physician in charge of the Homerton Fever Hospital of London,

and is now medical superintendent of the fever hospitals in the eastern part of that city. His field of observation has been a wide one, and his extensive experience has peculiarly suited him for writing instructively about the subject which he has chosen. Dr. Collie regards typhoid fever as a specific disease due to a specific cause. He rejects the idea of a *de novo* origin, but elsewhere exhibits a somewhat inconsistent sympathy for Bastian's views in favor of spontaneous generation in the abstract. The germ theory, in his opinion, may be a good working hypothesis, but cannot yet be regarded as a complete explanation of the acute infectious diseases, and he makes no reference to the latest results of Eberth and Koch in regard to the typhoid bacillus. The typhoid stool he thinks, and probably justly, is infectious from the time of its passage. The Pettenkofer-Buhl theory that the prevalence of this disease is directly dependent upon the level of the ground-water, being in an inverse ratio to that level, does not find favor with him; and again we believe his judgment is sound. Cold water externally, his experience leads him to regard as an occasionally useful adjuvant in treatment, but not as a good method of treatment. His remarks upon the uselessness of astringents internally and of the ice-bag externally, in intestinal hemorrhage, are sensible and to the point.

The incubation of scarlet fever he states may vary from some hours to some days; but a case cited (p. 331) to prove that its incubation was only eleven hours seems to us, as reported, by no means conclusive.

The volume, a small octavo, contains 288 pages; the chromo-lithographs, of which there are four, are good.

*Surgical Diseases of the Kidney.* By HENRY MORRIS, M.A., M.D., F.R.C.S., Surgeon to, and Lecturer on Surgery at the Middlesex Hospital, London. 12mo. 555 pages, with 6 chromo-lithographic plates and 40 engravings. London: Cassell & Co. Philadelphia: Lea Brothers & Co. 1886.

Mr. Henry Morris is a surgeon who has had a large and valuable experience in the surgical diseases of the kidney, and who has won for himself an enviable reputation in the field of renal surgery.

We have been afforded much pleasure in reading this "Manual," which is ideal in the completeness with which the subject is treated. The work contains more than a brief description of the normal regional anatomy of the kidney; a full account of the malformations and other abnormal anatomical conditions of the organ; a systematic account of the injuries and diseases of the kidney; and finally, a fairly full account of the methods of performing the several renal operations. It is arranged systematically, with an excellent index, and has a full reference to the literature of each subject under its appropriate chapter.

The engravings and chromo-lithographs reflect great credit upon the publishers, and must be a source of satisfaction to Mr. Morris.

The work is a full, careful exposition of one of the most important parts of the field of surgery, and its perusal enables a surgeon to be abreast with the times.

*How We Treat Wounds To-Day. A Treatise on the Subject of Antiseptic Surgery which can be understood by Beginners.* By ROBERT T. MORRIS, M.D. Second Edition. New York and London: G. P. Putnam's Sons. 1886.

As giving the views of the extreme "antisepticians" in an amusing style, we would commend to the notice of the profession this book, which opens with the statement that "this book is modest only in size." The book, if it were addressed to surgeons away from the centres of professional activity, might be said to give in a strikingly clear manner the details of the antiseptic treatment of wounds; but, as it is "a treatise on the subject of antiseptic surgery which can be understood by beginners," we feel that it is somewhat unsafe, from the visionary manner in which it presents the subject.

We sympathize with Dr. Morris in his feelings regarding consultations with surgeons whose brain-cells have become ankylosed, but such sentences as the following (page 132): "Don't call a consultation; because some one may want to wait a little while," or "Don't ask any one's advice, but tell your assistants what is to be done," should be omitted from a work addressed to beginners. We trust that the next edition of this book will have a modicum of caution which will leave the mass of enthusiasm which pervades the whole.

*A Text-Book of Medicine for Students and Practitioners.* BY DR. ADOLF STRÜMPFELL. Translated by permission from the Second and Third German Editions, by Herman F. Vickery, A.B., M.D., and Philip Coombs Knapp, A.M., M.D., with Editorial Notes by Frederick C. Shattuck, A.M., M.D., with one hundred and eleven illustrations. New York. D. Appleton & Co., 1887.

The first edition of this book by Dr. Strümpf appeared in 1833, when the author was professor at the Medical Polyclinic of the University of Leipzig. It immediately achieved a deserved popularity as a text-book in Germany, where it has passed through three editions. We do not doubt that a very cordial reception and intelligent appreciation, proportioned to its merits, await it in this country.

It is a work of one octavo volume of 981 pages, of good clear type, and not unwieldy; the translation is remarkably well done; and moreover, the translators have allowed themselves some slight liberties calculated to increase its worth for American readers. The editor has, with the same end in view, added occasional notes which are incorporated in the text and bracketed. This was a wise step, and has been judiciously executed.

Dr. Strümpf's book is full, but concise and very practical; hypotheses have been omitted; it does not remind one in any way of the *Schreibtsch*, but it carries an easy conviction that the author has been a persistent and accurate observer of the sick. His clinical conclusions are built upon a firm foundation of anatomy and pathology. The chapters on diseases of the nervous system are especially complete and satisfactory.

The book, in a word, as a text-book, exhibits the merits of the best American books of a similar character, as well as those German recommendations which we should expect to find in a high degree; and the author has, at the same time, known how to avoid those defects to which his countrymen are prone when they sit down to write. We believe both practitioners and students of medicine will find this translation of Dr. Strümpf's work a very useful and valuable acquisition.

*The Emancipation of Massachusetts.* By BROOKS ADAMS. Boston and New York: Houghton, Mifflin & Co. 1887.

Aside from its interest for the general reader which this book possesses as a vivid description of early New England life, it claims special attention from students of anthropology, as an important application of the laws of nerve action to mental phenomena.

The writer, without making any claim to be considered an expert in natural science, points out facts and suggests relations which cannot fail to awaken the interest of the ethnologist, the physiologist, and the psychologist.

Starting from the observation that "there would seem to be a point in the pathway of civilization where every race passes more or less completely under the dominion of a sacred caste," Mr. Adams seeks to discover the means by which this dominion has been secured, as well as the circumstances which have led to its subsequent overthrow. The origin of the priestly power he traces to the discovery of some valuable secret (for example, a cure for the bite of the rattlesnake), which gives to the finder, and those to whom he imparts it, a character of peculiar sanctity. Societies formed of individuals possessing knowledge of this sort, and claiming for it the authority of divine revelation, soon develop into hereditary priesthoods, administering elaborate rituals, which exert over the mind the same coercive power that firmly-established physical habits maintain over the bodily movements.

As military commanders seek, by the constantly-repeated evolutions on the drill-ground, to convert their armies into "machines wherein subjection to command is instinctive, and insubordination, therefore, practically impossible," so a priesthood endeavors to establish its authority over the minds of men by exacting, from the earliest childhood, an unquestioning compliance with complicated forms and ceremonies, whereby mental processes are rendered as automatic as the motions of a well-trained soldier.

Emancipation from this ecclesiastical control can be effected only when the intellectual faculties are sufficiently developed to hold in check this mental automatism; and, on this theory, original thought must be regarded, from a physiological standpoint, as the inhibition of a mental reflex. The individuals who first manifest this tendency to intellectual variation are, of course, recognized by the priests as their deadliest foes, and are persecuted with relentless severity.

The reason why the early history of New England exhibits, in a condensed form, many of the phenomena which usually belong to a more primitive stage of development, is that the early colonists, having taken the Bible for their literal guide in all the affairs of life, actually undertook to reproduce, as far as was possible in the 17th century, the social condition existing among the Jews of the 7th century B. C.; and really did succeed in establishing "a theocratic despotism, which lasted, in full force, for more than forty years."

In this connection, no attempt can be made either to weigh the historical evidence which the writer brings to the support of his thesis, or to point out certain objections which may be urged. It is safe to say, however, that Mr. Adams has pointed out an important analogy between mental and physical evolution, and has illustrated it in a very vivid and effective way by examples drawn from the early history of this community.

THE BOSTON  
**Medical and Surgical Journal.**

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THE PATELLAR REFLEX.

IN 1875 Erb and Westphal<sup>1</sup> published simultaneously the results of their independent studies on the shock of the tendons, and the patella-tendon in particular. Light taps with the finger or side of the hand made over the tendinous insertions of certain muscles (quadriceps femoris, the crural muscles, the triceps in the upper arm), cause a peculiar starting of those muscles, likened to a kick or a jerk. Westphal gave the name of "lower leg phenomenon," "foot phenomenon," to what Erb had designated as "patellar reflex," "reflex-ankle clonus," and while the latter regarded these as reflex acts, due to excitation of the tendons, the former considered the muscular contractions as produced directly by mechanical stretching and shock of the muscular substance. Westphal's view has been supported recently in this country by Drs. S. Weir Mitchell and M. J. Lewis,<sup>2</sup> and by Dr. Warren P. Lombard, in the *American Journal of Medical Sciences*, for January, 1887, in an article: "Is the 'knee-kick' a reflex act?" Their studies led Drs. Mitchell and Lewis to believe that the knee-jerk and other like responses to tendon taps are direct muscular acts, which cannot exist without that spinal contribution known as "tone," a contribution capable of increase from a variety of causes, and they hold that these muscle responses to a pull on the tendon, cannot be reflexes, because the latter are inhibited by violent sensory stimulations which they find increase the knee-jerk. The great argument against the theory that the "knee-kick" is a reflex act, and which is well stated by Dr. Lombard, and is fortified by his experiments, is "that the time elapsing between the moment of the blow on the ligament, and the beginning of the contraction of the quadriceps muscle is too short for a reflex action." "Thus the majority of observers find the interval to vary between 0.030 of a second and 0.040 of a second, except under abnormal conditions, when—in lateral sclerosis for example—

it has been found as short as 0.016 of a second. Such intervals of time are compared with the presumable reflex time, and are found to be three times as short as they should be, were the action a reflex process."

The advocates of this view do not deny the participation of the spinal cord in the tendon-phenomenon, but regard this influence as concerned in regulating the "tonicity" of the muscles, whose contraction causes the characteristic jerk. When the functions of the cord are exalted—as in the erethism of lateral sclerosis—the phenomenon is more pronounced, for the "muscle tonus" is exaggerated; when the vital properties of the cord are depressed, or the nerve conductors by which the "tonus" is imparted are incapacitated by traumatism or by disease, (some cases of locomotor ataxia, sections of the cord in the lumbar region, sections of certain nerves), the tendon-phenomenon is wanting. Practically it makes but little difference which theory be entertained. If the "knee-jerk" be found to have all the characteristics of a reflex act, the ordinary medical mind will be inclined to think that there is some mistake about the "time argument," especially when it is admitted that the time required for reflex acts of all kinds is not absolutely determined.

It is worthy of note in this connection that Burekhardt and Tschiriew, as well as Ter Meulen, Gowers and Brissaud have arrived at views differing from those of Lombard, concluding from their experiments "that the time which separates the shock of the tendon from the contraction of the triceps is sufficient in order that this contraction may be effected by reflex mechanism."

The arguments chiefly relied on to prove the reflex nature of the knee phenomenon are as follows:

(1) Experimenters, as Lewinsky, have noted that under the influence of excitation of the tendons, when the reflex properties of the spinal cord are exalted, there is contraction, not only of the muscles whose tendons are excited, but also of the antagonist muscles.<sup>3</sup> Here the intervention of the spinal cord is evident.

(2) The shock of one patellar tendon sometimes causes contraction, not only of the quadriceps muscle on the side of the percussion, but also of the adductor muscles of the opposite side. Erb has witnessed this in hemiplegic patients.<sup>4</sup> Tschiriew and J. L. Prévost have observed the same phenomenon in their experiments on hares.<sup>5</sup>

(3) Experiments on animals seem to teach the reflex nature of the muscular contraction in question. The first experiments were those of Schultze and Furbringer,<sup>6</sup> who found that after section of the crural nerve in hares, the knee-jerk failed to appear. This shows that "the contraction of the triceps is not the result of a direct arousing into activity of the fasciculi of this muscle by mechanical shock, and that reflex

<sup>1</sup> Lewinsky in *Archiv. f. Psych.* vii-8. (Cited by Vulplan, *Maladies du Syst. Nerv.*, t. ii, p. 140.)

<sup>2</sup> Erb in *Ziemssen*. Vol. xiii, p. 49.

<sup>3</sup> Vulplan, loc. cit.

<sup>4</sup> Schultze and Furbringer, *Centralblatt*, f. d. m. w., 1875, p. 929.

<sup>1</sup> *Archiv. f. Psychiatr.* v. 792-802, 803-831.

<sup>2</sup> Physiological Studies of the Knee-jerk, etc. Medical News, February 12, 20, 1886.

innervation plays an indispensable rôle in the production of the phenomenon." Schultze and Furbringer have also shown that the percussion of the patellar tendon on one side in the hare may provoke a contraction of both triceps muscles, the contraction on the side receiving the shock being considerably stronger than that of the opposite side. This phenomenon has also been witnessed by Burekhardt and Prévost. It is hard to explain this fact on any other theory than that of reflex action.

An interesting fact in this connection is communicated by Tschiriew.\* If section of the crural nerve abolishes the possibility of the patellar reflex, section of the sciatic nerve at the upper part of the thigh exaggerates this reflex. "It would be impossible," says Vulpian, "to explain this influence of the section of the sciatic, if the spinal cord did not play an important rôle in the production of this phenomenon, for the sciatic has absolutely nothing to do with the innervation of the triceps femoris muscle." Why section of the sciatic should cause exaggeration of the patellar reflex is not known, unless the paralysis of the muscles which antagonize the triceps, and which are supplied by the sciatic, and the consequent exaltation of the functions of the triceps, be a sufficient explanation.

These considerations, among others which might be added, go to show that the term "tendon-reflex," cannot yet be regarded as discredited.

#### ENLARGEMENT OF THE THYROID GLAND IN PREGNANCY AND PARTURITION.

IN the present state of uncertainty regarding the function of the thyroid gland we can hardly expect to attain much definite knowledge as to the connection which, from a period at least as remote as that of the poet Lucullus, this gland has been supposed to possess with the generative function in woman. That there is some such connection seems to be shown by the testimony of obstetric writers, such as Simpson, Barnes, and Lusk, that enlargement of the thyroid gland occurs not unfrequently during pregnancy. This, of course, may be simply a phase of the generally increased glandular activity which characterizes the puerperal state, or it may be the direct effect of the enhanced action of the heart, whereby blood is forced into the abundant vascular channels of the gland which lies so near it. The tumor, however, in at least one recorded autopsy, represented a true follicular hypertrophy, a multiplication of the normal elements and not a vascular enlargement.

Dr. Natalis Guillot seems to have been the first to draw attention to bronchocele as an accompaniment of pregnancy, an occurrence which he noticed at first incidentally in the wards of the Necker Hospital, the patients not complaining in any way of the enlargement. Ollivier, in his "*Etudes sur les Maladies Chroniques d'origine Puerperale*," described various

forms of the affection: first, a subacute and transitory form, appearing at the third or fourth month of pregnancy. Here there is no pulsation as in vascular goitre and no exophthalmos. Second, a rapidly growing variety, especially dangerous through suffocation; third, an enlargement, slow in pregnancy, stationary after delivery, liable to undergo a slight increase in size with each succeeding gestation. This variety is the commonest.

There is a wide divergence between various authors in the frequency which they assign to tumefactions of the thyroid in pregnancy. Freund, who measured the necks of a number of pregnant women, came to the conclusion that forty-five out of fifty had an increase in the volume of the neck as the result of pregnancy. Burine believes that goitre is very frequent in pregnant woman, though often overlooked through lack of careful measurements. Tait, in a communication to the Obstetrical Society of Edinburgh, in 1873, reported some twenty cases which had come under his own observation. Of these all but one occurred in one locality, at and near the town of Wakefield. After removing to Birmingham, in a very large hospital clientèle, he saw only one such case. Hence, he concludes there is some endemicity to the affection. The speakers who discussed Mr. Tait's paper had none of them apparently seen as many cases as Mr. Tait, though one, Mr. C. Bell, had seen three cases in one family in Lanarkshire. These were in a cottage situated low and surrounded by trees. Dr. Matthews Duncan and Dr. Keiller had seen the affection in pregnancy, but did not consider that its uterine relation was solely with pregnancy, but as well with the general condition of the glandular structures of the uterus, so that menstruation, as well as other modes of activity in the generative function, might determine an enlargement of the thyroid. Thus even diseases of the uterus and ovaries may be accompanied by bronchocele.

Of Mr. Tait's cases, the first occurred at Drymen, in 1863, the goitre first appearing at the fifth month of the first pregnancy. It went away after the first and the second pregnancy, but persisted after the third. In the fourth it grew rapidly and diminished slightly after the pregnancy terminated. Its renewed development later was the woman's first indication that she was pregnant for the fifth time. In all the other cases but one the goitre showed itself first during the first pregnancy. The locality is described as physically well situated, the ground gently undulating, with a deep subsoil of loose drift on porous sandstone. The drinking-water is from springs, or surface wells, except in the town, which uses river water, containing considerable lime, so that bladder calculi were common. The trade was wool-spinning. There was no goitre in this locality among men nor among non-parous women.

The latest contribution to this subject is in a thesis by Dr. A. De Burine.<sup>1</sup> After a general review of the subject he cites three cases, in all of which the goitre

\* Vulpian, loc. cit.

<sup>1</sup> Archives de Toxicologie, January 15, 1887.

seemed dependent on the act of parturition rather more than upon the condition of pregnancy. The cause for a bronchocele developing during labor is largely mechanical, and it seems probable that vascular stasis, passive congestion, amounting sometimes under the severe strain of labor to apoplexy of the gland, is essentially different in character from the hypertrophy above considered. The former phenomenon is merely mechanical, while the latter depends upon some as yet unknown physiological relation between the gland and the various epochs of the genetic function.

Dr. Burine gives three instances from his personal observation of goitre beginning at or near delivery in women who had no history of bronchocele either in their family or their neighborhood. The first was a woman, first pregnant at twenty. Gestation and delivery were both normal, but in the second week after confinement a small enlargement of the neck was noted. After each successive delivery (nine in all), the tumor gained in size though it remained without further growth during the pregnancies and the intervals between them. By the fifth pregnancy the tumor was one-half the size of a fist. In the fortnight succeeding the seventh confinement, the goitre rapidly increased to the size of the fist, and began now to cause dyspnoea. During the eighth labor the dyspnoea became urgent, and continued after delivery so that the nights were miserable. The ninth labor came on at seven months, after a gestation characterized by increasing dyspnoea. All work was impossible as was also the swallowing of food other than milk. During the labor the patient became asphyxiated and a dead child was delivered by forceps. The tumor at this time extended beneath the sterno-mastoid muscle on each side and from the supra-sternal notch above the hyoid bone. Despite the urgent symptoms the patient improved in her breathing a few days after the labor, and subsequently came to operation for the removal of the goitre.

A second patient passed through three pregnancies with no sign of goitre, but during the third labor she noticed a swelling of the neck and a tumor of the size of a walnut was left, which remained unchanged and caused no difficulty until she again became pregnant a year and a half later. Then at once attacks of dyspnoea and dysphagia began to occur, though the tumor did not further enlarge till the labor began. The labor was long, but despite an increase in the goitre there was no corresponding exaggeration of the symptoms. After the labor the tumor slightly diminished and then again remained stationary.

A third patient developed her earliest signs of goitre after her first labor at the age of twenty years and a half. It increased for the next six months, and underwent no further modifications in three subsequent labors at the ages of twenty-three, thirty, and thirty-two years.

It is to be hoped that further observations may throw light on the frequency of bronchocele in preg-

nancy, and the question whether the graver cases have some endemic character, as well as upon the general relations of the thyroid with the uterine glands.

#### RIGHT-HANDEDNESS. — II.

By a rather curious coincidence, an article on left-handedness appeared in *Science* practically simultaneously with the remarks on right-handedness in our issue of February 17th. The occasion for the former article was a paper by the learned Dr. Daniel Wilson in the "Proceedings of the Royal Society of Canada," in which he gives the weight of his support to Gratiolet's view that the cause of right-handedness is the greater development of the left side of the brain, and that, in left-handedness, the right side of the brain is preëminent.

The writer in *Science* endeavors to prove that what is now the cause of the preference for the right hand was originally an effect. For certain reasons, to be discussed presently, the right arm had attained preëminence, and this had reacted on the brain. This is a good instance of the quite independent reiteration of the same thing to which we alluded. We had written that, accepting the theory that the right arm is the strongest because it is used most, "there is no difficulty in supposing that the left side of the brain becomes more developed in consequence; and further, that these characteristics are inherited." So far we are at one with *Science*, assuming, for the moment, that it has been shown why the right side was originally the most used. The explanation suggested by *Science* is another of those jacks-in-the-box which it is hopeless to suppress. In short, it is that the warlike progenitors of the human race used the right arm for fighting and the left for protection, as they had perceived that wounds on the left were more dangerous. "Those who neglected this precaution would be most likely to be killed," and natural selection would do the rest. Nothing could be more simple!

There are, however, one or two criticisms we shall venture to make: We are told by *Science* that there is no right-handedness in lower animals, which is in direct contradiction to the well-known observations we mentioned. We would next ask: Are we seriously called upon to believe in the wound theory? What anatomical support is there for it? Two-thirds of the heart, to be sure, are to the left of the median line, and the left lung reaches a little farther down than the right. On the other hand, the superior vena cava is on the right; and so is almost the whole of that great reservoir of blood, the liver, which far more than counterbalances the left lobe of the liver and the spleen. Anatomists might dispute which side offers the greater danger to the attack of an enemy; but, according to our credulous writer in *Science*, not only did ignorant savages settle the matter, but, apparently, they had the same experience all over the world.

To show farther the childishness of such a theory, we must mention that, even in the warfare of primi-

tive faces, the opposing armies did not face each other like two companies of wooden soldiers, so that statistics could easily be collected to show the number and severity of wounds of either half of the body. They had a way of attacking from the side, or even from behind or obliquely; and, consequently, their weapons often pierced the foemen's bodies without the slightest regard to symmetry. There is reason to fear that severe, even fatal, wounds of the viscera on the left were inflicted by arrows entering on the right, and *vice versa*.

In view, therefore, of the great doubt whether there is any appreciable difference in the danger of wounds of the two sides of the body, and in view, also, of the deplorable irregularity with which we must suppose the wounds were given, we cannot accept this theory till we shall have had time to peruse the tabulated reports of pre-historic surgeon-generals.

This wound theory, as we have said before, is no new one, but we must give the ingenious writer in *Science* credit for an original explanation of the occasional occurrence of left-handedness. The survival of the fittest makes the race right-handed, "with occasional reversions, of course, by 'atavism,' to the left-handed; or, more properly, the ambidextrous condition." Now we well know that "atavism" is a very powerful *deus ex machinâ* to account for the unaccountable; but it passes our comprehension to see how the right-handed descendants of ambidextrous ancestors can become left-handed by atavism. Indeed, our author appears to have had his doubts about it, for he adds: "or, more properly, the ambidextrous condition." Very much more properly, we agree. But then the ambidextrous condition is not left-handedness, and the explanation appears to have melted away.

To return to the starting point, namely, Dr. Wilson's theory that the greater development of the left side of the brain is the cause of right-handedness, we can only say that the learned Professor appears to us simply to have changed the difficulty, for we agree fully with the implied criticism of *Science*, that there must be a cause for this greater cerebral growth; and further, we think it very likely that this cause is itself an effect, though we cannot accept the puerile theory that *Science* offers us to account for it.

#### THE BOSTON HEALTH REPORT FOR THE YEAR 1886.<sup>1</sup>

THERE were 9,268 deaths in Boston during the year 1886 as compared with 9,618 in 1885, 9,622 in 1884 and 9,740 in 1883. Guessing the population to have been 400,000, the estimated death-rate is put at 23.17 per thousand of the population, against 24.04 in 1885 with a State-census population of 390,393 in that year.

<sup>1</sup> Fifteenth Annual Report of the Board of Health, of the City of Boston, for the Year ending 1886. Boston: Rockwell and Churchill, 1887.

The number of deaths from "zymotic" diseases was 1,644 or 17.7 per cent. of the total mortality, and far less than in any previous year, the rates from 1885 to 1872 having been 19.5, 23.7, 26.2, 25.3, 26.9, 27.2, 26.2, 26.2, 25.9, 25.8, 29.6, 30.0, 24.3, 33.4, 34.9.

Diphtheria, which may be considered endemic in Boston, shows a falling off in the number of deaths, and a decrease yearly. The deaths reported during the year were 329; while the average for the five years previous was 436. The prevalence of scarlatina, for some years past, has been fast decreasing; the past year shows about half the number of deaths as compared with the year before, and with over 500 less reported cases. The percentage to the total mortality was 0.87, the number of deaths being 81. Typhoid fever shows a decrease of 17 deaths from the previous year, and the smallest number for any year during the past five years. Measles has comparatively the largest falling off in its mortality, the deaths being 40 per cent. less than those in the year 1885. There were 705 deaths from diarrheal diseases, a less number than in any year since 1870.

The total number of deaths of children under five years during the past year was 3,146, and, as compared with the previous year, shows a falling off of 248 deaths. It also shows a reduction of 384 as compared with 1884; and 441 from 1883, notwithstanding an increase in the population, and the least proportionate number of deaths of any year since the creation of the Board of Health.

There were 3,152 cases of infection-diseases reported, including only one from small-pox. The cases reported in the three previous years were 3,706, 4,487 and 3,718, a sufficient proportion to render measures of sanitary examination and control important and useful, but not enough to render statistics of cure-rates of any value.

The daily routine work of the Board is illustrated by the record of nuisances abated as follows:

House drains repaired . . . . .	2,802	Receptacles provided for garbage . . . . .	36
Vaults cleaned and repaired, 2,467		Passage-ways cleaned . . . . .	130
Traps supplied . . . . .	869	Stables put in order . . . . .	25
Yards cleaned . . . . .	545	Swine removed . . . . .	45
Stagnant water removed from vacant lots . . . . .	76	Sundry nuisances . . . . .	89
Water-closets repaired . . . . .	753	Manure removed . . . . .	75
Cellars cleaned . . . . .	653	Roofs repaired . . . . .	39
Cesspools cleaned . . . . .	299	Sheds cleaned . . . . .	48
Privies repaired . . . . .	93	Tenements whitewashed . . . . .	88
Vacant lots cleaned . . . . .	74	Supply-pipes repaired . . . . .	62
Fowls removed . . . . .	37	Goats removed . . . . .	2
General want of cleanliness of premises . . . . .	108	Dead rats removed . . . . .	21

The number of houses ordered to be vacated during the year was 148, of which number only 37 were actually vacated. The other houses having been put in proper condition before the expiration of the time specified in the notice, the tenants were allowed to remain.

There were 1,630 complaints examined in the usual way, and no cause for action was found.

We congratulate the Board on their having abolished 1,557 privy vaults in 1886 and 783 in 1885, and we regret to learn that the services of the Odorless Excavating Company were required to empty 3,853

within the limits of the city, during the year. There were 80,998 places disinfected in 1886, including 25,170 vaults and 13,732 cesspools. The number of rooms fumigated was 4,190.

Of 15 wells examined only 3 were found fit for use. At the abattoir 63,651 cattle were inspected, 22,308 calves and 449,465 sheep. Six calves and 4,189 pounds of beef were condemned.

At the public baths the record is of 714,514 baths for men and boys, and 194,886 for women and girls.

#### MEDICAL NOTES.

—The *Medical Press* publishes the following interesting extract from Mr. Greville's recently-published journal of "The Reign of Queen Victoria," vol. iii., p. 110: "I went, yesterday (1818), to St. George's Hospital, to see the chloroform tried. A boy, aged two and a half, was cut for a stone. He was put to sleep in a minute; the stone was so large, and the bladder so contracted, the operator could not get hold of it, and the operation lasted above twenty minutes. . . . A curious example was shown of what is called the *etiquette* of the profession. The operator could not extract the stone, so, at last, handed the instrument to Keate, who got hold of the stone; thereupon the first surgeon begged to have the forceps back, that he might draw it out, and it was transferred to him; but, in taking it, he let go the stone, and the whole thing had to be done over again. It was accomplished, but not, of course, without increasing the local inflammation and endangering the life of the child. I asked Keate why, when he had got hold of the stone, he did not draw it out. He said the other man's 'dignity' would have been hurt if he had not been allowed to complete what he had begun."

—The *Archives de Tocologie* quotes an interesting statement made by Rev. C. Wilson in "Uganda and the Egyptian Soudan," which seems to give some credibility to one of the theories regarding the determination of sex in offspring. After alluding to the predominance of females among the population as due in part to deaths among the males in battle and to the capture and bringing home of female slaves in war, he says that the children of Uganda women are not more generally of one sex than the other, but that the first births of women captured in war are largely females, in the proportion of 403 to 79 males. To the assumption that the more *able* of the parents determines the sex of the offspring to the opposite sex, this writer finds support in the fact that the men are happy in their victory and are cheered by feasts and drinking, while the women are depressed by sorrow at the defeat and death of their husbands and friends and the loss of their liberty. In the later pregnancies of these women, he adds, the proportion is changed to 100 boys to 137 girls. Again he says that the women of Central Africa, captured by slave hunters and carried along beside the train, if they become pregnant during their journey, usually give birth to girls.

#### BOSTON.

—The Committee on Public Health have reported to the Massachusetts Legislature, Senator Gleason, of Plymouth, and Mr. Bird, of Framingham, dissenting, a bill to regulate the practice of dentistry in the Commonwealth.

#### NEW YORK.

—Up to February 25th, ninety-two cases of small-pox have been reported during the present outbreak.

—For some time past diphtheria has been very prevalent in the vicinity of Fishkill-on-the-Hudson, and the mortality from the disease has been extremely large. In the last annual bulletin of the State Board of Health, the Hudson Valley District, which comprises all the counties, except Westchester, on either side of the river, is placed second in the State in mortality. For the entire State, the ratio per 1,000 deaths, from all zymotic diseases, to the total mortality for 1886, was 217.23, against 222.17 in 1885, and 269.12 in 1884. The conjoined death-rate per 1,000, from typhoid fever and diarrhoeal diseases, was 146.40 in 1884, 104.07 in 1885, and 94.44 in 1886, showing a continued reduction. On the other hand, diphtheria, which, it is claimed by the Board, is caused more by insanitary conditions of households, and is not so susceptible to public hygienic improvements, has prevailed more extensively; having had a death-rate, in 1884, of 47.65 per 1,000; of 56.06 in 1885; and of 64.48 in 1886. In each 1,000 deaths in the Hudson Valley District there were, in 1885, 62.63; and, in 1886, 64.63 from diphtheria. The total number of fatal cases in this district, last year, was 597.

—The King's County Supervisors have decided to build a new wing to the insane asylum, at Flatbush, which has so long been overcrowded, and have appropriated \$50,000 for the purpose.

—On February 22d, Professor Lancing gave a lecture on "Mummification," at Suydam Hall Chapel, New Brunswick, which belongs to the Rutgers' Theological Seminary; and afterwards, with the assistance of Dr. Van Vranken, of Albany, unwrapped a mummy in the presence of the audience. It was that of a royal priestess of the Nineteenth Dynasty, who lived about 1400 B. C., and was probably contemporaneous with Moses. The unwrapping occupied about two hours. There was, first, a layer of carefully-painted linen; and then hundreds of yards of narrow linen bandages, with an occasional sheet of linen, all the dressings smelling strongly of bitumen.

—During the past two years the experiment has been tried, in consequence of the large mortality that existed at the Randall's Island Nursery, of placing a number of the children from that institution under the care of nursing mothers, at their homes in and near Mount Vernon, Westchester County. The Commissioners of Charities and Correction now keep from fifty to sixty of them in the country, and the death-rate has been reduced among these infants from thirty per cent. to about five per cent. The cost *per capita* is \$13.50 a month, while at Randall's Island it is \$7.73. The

children are under the personal supervision of Dr. Robert T. Howe, of Mount Vernon; and, once a month, the paymaster from the City Comptroller's Department pays off the women at his office. Additional provision is also to be made at Randall's Island, where a pavilion adjoining the present buildings is to be erected, at a cost of \$25,000. This will accommodate from 1,500 to 2,000 adults and infants, and will relieve the present overcrowded condition of the Nursery.

### Miscellany.

#### THE BOSTON HERALD AND THE RAG QUESTION.

WE copy from the *Sunday Herald*, of February 27th, the following paragraph, and, in so doing, are not able to compliment our esteemed contemporary on its fairness, a fairness which we are accustomed to expect from it in other matters:

"The theories advanced by scientific authorities during the rag hearings last year, that contagious diseases are not carried by old rags, rather gets a setback by the discovery of four cases of small-pox among the rag-sorters of the Holyoke paper mills. How is this?"

In reply to the question, "How is this?" we would say that, to our knowledge, no such theories were "advanced." The fact was stated, and we repeat it now, that no case of cholera in this country had ever been clearly, or even presumably, traced to foreign rags in *bale*, as its source. The fact was also stated that small-pox had probably been conveyed in domestic rags, the very town of Holyoke having been instanced as an illustration of that statement; although it is, of course, not to be assumed that every case of small-pox occurring among rag-sorters is *ipse facto* evidence that the rags were the source of infection. There are among these rag-sorters many Canadian immigrants: out of a population of thirty thousand, eight thousand are French Canadians; moreover, small-pox has again been prevalent in the City of New York this winter, ninety-five cases having been reported to the health authorities up to Feb. 25th. We shall await further advices with reference to the source of the disease in these cases.

There was, previous to and during the rag hearings, last year, before the Committee of the Boston City Government, altogether too much of the sort of falsification and misrepresentation, of which the above is a specimen: it is creditable neither to interested individuals, to paid counsel, nor to newspapers reflecting their views.

### Correspondence.

#### PLAGIARISM OR TELEPATHY.

BOSTON, MASS., February 21, 1887.

MR. EDITOR,—Permit me to make use of your columns to call to the attention of those interested in psychical research a most remarkable instance of direct (or indirect) transference of ideas which has recently come to my notice. I received, a few days ago, a sample copy of the "Annals of Hygiene," the Official Organ of the State Board of Health of Pennsylvania, edited by Joseph F. Edwards, A.M., M.D., with an urgent appeal for a subscription.

On inspection of its pages I was much struck by the somewhat familiar appearance of many of the illustrations, which latter, according to an editorial in a former number which I have found, "we have decided to call to our aid to enable us to make clear the lessons of hygiene that we preach," for the very good reason that "that which is photographed upon the retina is much more lasting than that which is impressed upon the tympanum."

Referring to a little book published in London in 1881, called "Dangers to Health," by J. Pridgin Teale, M.A., I was surprised to find the exact counterparts of the illustrations to eight separate articles. Nor does the similarity stop here; the text of many of the eight articles is an almost exact reproduction of that in connection with the cuts in Mr. Teale's book. In the previous number already referred to, are four more illustrated articles, also counterparts of some of Teale's.

This, it seems to me, is one of those most extraordinary examples which cannot very well be explained by any theory of muscle-reading, since, as anybody will admit, the distance from Philadelphia to London is so great that even though the percipient were connected by wire—in this case the cable—the muscular impulses could not be of sufficient force to be of any assistance.

It would of course be highly disconcerting to even suppose that the editor took the articles and illustrations bodily from Teale's book, since in that event he doubtless would have given proper credit. Will somebody kindly explain? Yours very truly,

CHARLES HARRINGTON, M.D.

#### ON AXILLARY LUMPS.

ROXBURY, BOSTON, Feb. 21, 1887.

MR. EDITOR.—It is, of course, possible (as Dr. Boxall thinks) that I was wrong in the impression I formed from the scanty data at hand as to the similarity of Velpeau's five cases of axillary tumor to Champney's cases of axillary lumps. Dr. Boxall explains away very satisfactorily to himself all but one of the cases, that of Von Siebold, whose perfect resemblance to Johnson's case, and almost perfect resemblance to Champney's, even Dr. Boxall substantially admits; and, be it observed, if Siebold's case alone stands, Champney's claim of priority falls.

But now let us go a little deeper into this claim of Dr. Champney, and see where the question of the "Lumps," as a pathological entity, now stands. The facts in the case are these:

Dr. Champney read before an English Society a paper entitled "The Development of Mammary Functions by the Skin of Lying-in-Women." This memoir contains a report of some thirty cases of a peculiar kind of axillary tumor, believed by the author to be described for the first time in his paper, and all occurring in a single hospital in London. Having delineated their clinical features, he proceeds to speculate on their nature. He conceives them to be sebaceous tumors, and "to prove that in lying-in-women the sebaceous follicles of the skin are capable of producing true mammary secretions," also to "confirm the opinion that the breast is a highly specialized aggregation of highly specialized sebaceous follicles."

The paper ended, Dr. Pollock endorses the originality of Dr. Champney's observations, while Dr. Creighton expresses his belief "that the lumps or glands were not derived from sebaceous glands, but from another cutaneous structure," described by Sappey, Kölliker, and Frey, as well as by himself, in a paper before the same Society; in plain language, the axillary sweat-glands. Hereupon Dr. Champney changes his previous opinion and becomes "inclined to accept Dr. Creighton's view of the origin of these lumps." They differed, he said, from lipomata in the fact that they secreted milk.

Finally, on this side the water, comes Dr. Johnson, with

<sup>1</sup> See *Journal*, December 9, 1886, pp. 547-8; December 16, 1886, p. 583; February 10, 1887, p. 146.

an account of a case in his own practice, which he supposes to be either an axillary lymphangitis with lymphorhagia, a supernumerary mamma with lacteal secretion, or possibly a lipoma.

Now it did seem to me, Mr. Editor, that all this loose theorizing, by so many different gentlemen, was very unscientific and childish, and, moreover, failed to lend confirmation to the view either expressed or implied by all hands that they were dealing with a wholly new species of tumor. No man in these days can come forward as the discoverer, or even in a rigid sense, the describer, of a new tumor without a distinct demonstration of its pathological structure. It was the omission of such demonstration which I criticized, or intended to criticize, in Dr. Champney's investigation. Certainly it would not have been difficult for Dr. Champney, had he so chosen, to procure

some specimen, or cutting, or minutest possible shred of diseased tissue, for microscopic examination. In view of the uncleanliness and uncleanness of a constantly oozing tumor of the armpit, it would have been perfectly fair practice to lay open one or more of them, pack with lint, and at the same time excise a small portion for examination. Possibly a Duchenne's trocar, which is nearly painless, might have brought away tissue enough for the purpose, without any operation at all. Then we should have had exact knowledge in place of so many conflicting and valueless hypotheses.

The plain truth is, Dr. Champney's description is really no description at all. It is a description which does not describe. It is a conundrum still unsolved, and awaiting some new *Edipus* for an answer. Yours respectfully,

EDWARD T. WILLIAMS, M.D.

# REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 19, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrheal Diseases.	Diph. & Croup.	Measles.
New York . . . . .	1,481,920	742	321	22.82	19.60	2.10	8.12	7.84
Philadelphia . . . . .	903,801	394	123	9.62	14.56	.78	4.16	1.56
Brooklyn . . . . .	745,108	—	—	—	—	—	—	—
Chicago . . . . .	745,108	—	—	—	—	—	—	—
St. Louis . . . . .	430,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	167	50	6.58	13.16	.60	2.30	1.20
Boston . . . . .	400,000	189	49	10.60	25.44	1.59	4.24	1.59
New Orleans . . . . .	242,750	—	—	—	—	—	—	—
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
Cleveland . . . . .	210,000	78	20	11.52	—	3.84	—	—
District of Columbia . . . . .	210,000	87	43	29.75	22.61	—	13.69	9.52
Pittsburgh . . . . .	210,000	—	—	—	—	—	—	—
Montreal . . . . .	186,257	40	26	—	—	—	—	—
Providence . . . . .	121,000	41	14	19.52	21.96	—	9.76	4.88
Richmond . . . . .	100,000	31	12	9.66	—	—	—	—
New Haven . . . . .	80,000	28	7	7.14	—	—	—	—
Nashville . . . . .	65,000	16	6	12.50	18.75	—	—	—
Charleston . . . . .	60,145	36	8	2.78	5.56	2.78	—	—
Portland . . . . .	40,000	17	3	5.88	—	—	—	—
Worcester . . . . .	38,383	33	14	3.63	24.24	—	3.63	—
Lowell . . . . .	64,051	11	17	24.39	17.08	7.32	2.44	4.88
Cambridge . . . . .	59,600	13	5	—	7.69	—	—	—
Fall River . . . . .	56,863	26	8	7.70	15.40	—	—	—
Lynn . . . . .	45,861	13	3	7.69	23.07	—	—	—
Lawrence . . . . .	38,825	15	4	—	13.33	—	—	—
Springfield . . . . .	37,577	8	0	—	—	—	—	—
New Bedford . . . . .	33,393	8	4	25.00	50.00	—	—	—
Somerville . . . . .	29,922	—	—	—	—	—	—	—
Salem . . . . .	28,084	15	3	6.66	—	—	6.66	—
Holyoke . . . . .	27,894	—	—	—	—	—	—	—
Chelsea . . . . .	25,709	7	1	—	14.28	—	—	—
Taunton . . . . .	23,674	8	0	12.50	12.50	—	—	—
Haverhill . . . . .	21,736	5	2	—	20.00	—	—	—
Gloucester . . . . .	21,713	5	2	—	20.00	—	—	—
Brookton . . . . .	20,783	10	3	—	10.00	—	—	—
Newton . . . . .	19,759	2	2	—	50.00	—	—	—
Malden . . . . .	16,407	4	4	75.00	75.00	—	25.00	—
Fitchburg . . . . .	15,375	2	1	50.00	—	—	—	—
Waltham . . . . .	14,609	2	0	—	50.00	—	—	—
Newburyport . . . . .	13,716	4	1	—	—	—	—	—
Northampton . . . . .	12,896	—	—	—	—	—	—	—

Deaths reported 2,055: under five years of age 788; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 326, consumption 362, acute lung diseases 350, diphtheria and croup 116, measles 80, diarrheal diseases 34, scarlet fever 22, typhoid fever 22, erysipelas 12, whooping-cough 11, cerebro-spinal meningitis nine, puerperal fever nine, malaria fever six, small-pox (New York) six. From scarlet fever, New York eight, Philadelphia and Pittsburgh, three each, District of Columbia two, Boston, Baltimore, Cleveland, Milwaukee, Providence and New Bedford one each. From typhoid fever, Philadelphia four, New York and Boston three each, Richmond and District of Columbia two each, Pittsburgh, Milwaukee, Providence, New Haven, Lowell, Lynn, Taunton and Fitchburg one each. From erysipelas, New York seven, Philadelphia two, Boston, Milwaukee and Fall River one each. From whooping-cough, New York three, Pittsburgh and Malden two each, Philadelphia, Richmond, Boston and Nashville one each. From cerebro-spinal meningitis, New York four, Lowell two, Philadelphia, Milwaukee and Fall River one each. From puerperal fever, New

York, Philadelphia, Baltimore, Cleveland, New Haven, Nashville, Lowell, New Bedford and Fitchburg, one each. From malarial fever, New York, Baltimore and District of Columbia, two each.

In the 20 cities and greater towns of Massachusetts, with a population of 930,404 (population of the State 1,941,465) the total death-rate for the week was 20.52 against 20.89 and 18.95 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,069, for the week ending February 5th, the death-rate was 19.6. Deaths reported 3,470: infants under one year of age 770; acute diseases of the respiratory organs (London), 279; whooping-cough 111, measles 104, scarlet fever 54, fever 40, diphtheria 29, diarrhoea 27, small-pox (Manchester and Blackburn one each), two.

The death-rates ranged from 13.5 in Nottingham to 28.4 in Plymouth; Birmingham 20.7; Bradford 23.3; Hull 18.6; Leeds 18.3; Leicester 18.6; Liverpool 20.8; London 18.4; Manchester 26.3; Newcastle-on-Tyne 21.9; Sheffield 20.8; Sunderland 19.3. In Edinburgh 17.6; Glasgow 23.8; Dublin 29.7.

The meteorological record for the week ending February 19, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.		Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather. <sup>1</sup>		Rainfall.							
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.		11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount in Inches.	
Saturday, Feb. 19, 1887.		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.				
Sunday, ... 13	30.663	13.0	18.0	8.0	60.0	46.0	58.0	55.0	N.W.	W.	S.	14	20	11	C.	C.	C.	O.	—
Monday, ... 14	30.733	18.0	26.0	6.0	58.0	73.0	74.0	69.0	N.W.	S.E.	S.	10	8	6	C.	C.	C.	O.	—
Tuesday, ... 15	30.909	42.0	48.0	23.0	85.0	87.0	82.0	85.0	S.	S.W.	S.W.	10	18	10	H.	O.	C.	O.	—
Wednesday, ... 16	29.750	46.0	46.0	36.0	81.0	65.0	71.0	72.0	W.	E.	W.	10	6	10	C.	C.	C.	O.	—
Thursday, ... 17	29.978	37.0	44.0	31.0	61.0	37.0	54.0	52.0	W.	W.	N.	15	12	10	C.	C.	C.	O.	—
Friday, ... 18	29.923	36.0	46.0	25.0	70.0	83.0	100.0	88.0	N.	E.	S.W.	8	22	9	O.	C.	N.	H.	—
Saturday, ... 19	29.809	46.0	47.0	36.0	94.0	46.0	63.0	68.0	S.W.	W.	W.	4	24	17	G.	F.	C.	C.	26
Mean, the Week.	30.125	32.3	35.0	23.0				69.8											

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; SL, Sleet.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 19, 1887, TO FEBRUARY 25, 1887.

BABROWS, CHAS. C., first lieutenant and assistant surgeon. Resignation accepted by the President to take effect February 17, 1887. S. O. 42, A. G. O., February 9, 1887.

BLACK, CHAS. S., first lieutenant and assistant surgeon. Ordered from Fort Clark, Tex., to Fort Davis, Tex. S. O. 23, Department of Texas, February 18, 1887.

#### SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.—THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, March 9th, at 7.45 o'clock. Papers: "A Case of Chronic Arsenic Poisoning of supposed Criminal Nature, with special Reference to the Medico-Legal Aspects," by Drs. Ernest Cushing and Morton Prince, Prof. E. S. Wood, and Drs. F. W. Draper, E. N. Whittier, L. F. Warner, of Boston, and Dr. A. F. Holt, of Cambridge, will take part in the discussion. Dr. Harold Williams, "A Case of Hodgkin's Disease." Dr. C. P. Putnam will open the discussion.

ALBERT N. BLODGETT, M.D., Secretary.

F. L. KNIGHT, M.D., Chairman.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Boston Society for Medical Observation will be held at the Medical Library, 19 Boylston Place, on Monday evening, March 7th, at eight o'clock. Readers: Dr. H. C. Haven; Dr. E. D. Spear, "A Few Remarks about the Drum Membrane, with Cases."

CHARLES P. STRONG, M.D., Secretary.

GYNECOLOGICAL SOCIETY OF BOSTON.—The next meeting will be held at No. 19 Boylston Place, on Thursday, March 10th, at 4 o'clock, P. M. Paper: "The Truths of Nature demanding Similar Truths from Science and Art," by Dr. Horatio K. Bigelow of Leipzig.

H. J. HARRIMAN, M.D., Secretary.

#### DEATH.

Died in Charlestown, Mass., February 25, 1887, Jonas Angustus Marshall, M.D., M.M.S.S., formerly of Fitchburg.

#### BOOKS AND PAMPHLETS RECEIVED.

Fifteenth Annual Report of the Board of Health of the City of Boston for the Year 1886. Boston, 1887.

Eleventh Annual Report of the Boston Water Board for the Year ending December 31, 1886. Boston, 1887.

Follicular Amygdalitis. By A. Jacobi, M.D., President of the New York Academy of Medicine. New York, 1886. (Reprint.)

Vesical Irritation in Women. By Virgil O. Hardon, M.D., Lecturer on Operative Gynecology, Southern Medical College, Atlanta, Ga. 1886. (Reprint.)

The Census of Massachusetts: 1885. Prepared under the Direction of Carroll D. Wright, Chief of the Bureau of Statistics of Labor. Volume I. Population and Social Statistics. Part I. 1887.

On Fevers, their History, Etiology, Diagnosis, Prognosis and Treatment. By Alexander Collicie, M.D. (Aberd.) M.R.C.P., London, etc. With Colored Plates. Philadelphia: P. Blakiston, Son & Co. 1887.

Bibliographie des Sciences Médicales Index Methodique et Catalogue Descriptif des livres et Journaux Anciens et Modernes, français et étrangers sur les Sciences Médicales. Paris: Librairie J. B. Baillière et fils. 1887.

Refraction of the Eye: the Diagnosis and the Correction of its Errors. By A. Stanford Morton, M.D., F.R.C.S., Ed., Surgeon to the Royal South London Ophthalmic Hospital, etc. Third Edition. Philadelphia: P. Blakiston, Son & Co. 1886.

Novel Methods of Treating Diseases of the Middle Ear. By Seth S. Bishop, M.D., of Chicago, Attending Surgeon to the Illinois Charitable Eye and Ear Infirmary and to the South Side Free Dispensary, etc. Read at the Annual Meeting of the Illinois State Medical Society. Chicago, 1887.

Nervous Diseases and their Diagnoses: a Treatise upon the Phenomena produced by Diseases of the Nervous System, with Especial Reference to the Recognition of their Causes. By H. C. Wood, M.D., Ph.D., Member of the National Academy of Science. Philadelphia: J. B. Lippincott Co. 1887.

The Source of the Mississippi. Comprising I. Letter from Messrs. Ivison, Blakeman, Taylor & Company. II. Report of Hopedale Clarke, Chief of the U. S. B. T. & Co. Expedition to the Headwaters of the Mississippi, October, 1886. Ivison, Blakeman, Taylor & Company: New York and Chicago. (Reprint.)

A Contribution to the Climatological Study of Phthisis in Pennsylvania. By William Pepper, M.D., LL.D. Presidential Address delivered at the Third Annual Meeting of the American Climatological Association, held at Philadelphia, May 10 and 11, 1886. New York: D. Appleton & Co. 1887. (Reprint.)

Medical and Surgical Memoirs: containing Investigations on the Geographical Distribution, Causes, Nature, Relations and Treatment of Various Diseases, 1825-1886. By Joseph Jones, M.D., Professor Chemistry and Clinical Medicine, University of Louisiana. Volume II. New Orleans: Joseph Jones, M.D. 1887.

Leçons sur les Maladies du Système nerveux faites à la Salpêtrière par J. M. Charcot, Professeur à la faculté de médecine de Paris, etc. Recueillies et publiées par MM. Babinski, Bernard Féry, Guinon, Marie et Gilles de la Tourette. Tome Troisième (Deuxième fascicule.) Paris. Aux Bureaux du Progrès Médical, 1887.

A Reference Handbook of the Medical Sciences, embracing the entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by chromolithographs and fine wood engravings. Edited by Albert H. Buck, M.D., New York City. Volume IV. New York: Wm. Wood & Co. 1887.

Diseases of Women: a Handbook for Physicians and Students. By Dr. F. Winckel, Professor of Gynecology and Director of the Royal University Clinic for Women in Munich. Authorized Translation by J. H. Williamson, M.D. Under the supervision and with an introduction by Theophilus Parvin, M.D., Philadelphia: P. Blakiston, Son & Co. 1887.

The Surgeon's Pocket Book: an Essay on the best Treatment of Wounded in War, especially adapted for the Public Medical Service. By Surgeon-Major J. H. Porter, Late Assistant Professor of Military Surgery, Army Medical School. Netley. Third Edition. Revised and Edited by Brigade-Surgeon C. H. Y. Godwin. Philadelphia: P. Blakiston, Son & Co. 1887.

## Original Articles.

THE RÔLE OF THE OVARY.<sup>1</sup>

BY SYMINGTON BROWN, M.D.

I ASSURE you, gentlemen, that I thought twice before adopting this title, — one which exposes me to a double cross-fire of criticism, and may possibly end in depriving me of the chance to perform any rôle myself in this learned Society. Let me hasten to explain that I do not mean anything disrespectful to the ovary. If this important organ only acts a part, what then? Do we do any more? And as I believe that it plays a leading part in the great drama of Life,—a part which men are only too glad to support in a subordinate rôle,—of course there can be no disrespect intended. This comes of introducing metaphysics into a gynecological society.

The minute studies of pathologists are often useful. I do not deny them; but it seems to me that pathological minutiae are like the scaffolding put up for the workmen during the erection of a building, intended to be removed when the building is finished. In fact, we cannot see the building in its fair proportions until the scaffolding has been removed.

In other words, I think that we have depended too much on morbid phenomena, and too little on the experiments which Nature kindly performs for us. More can be learned by careful observation of natural processes and guarded deductions therefrom, than from the twisted facts which disease presents us with. Naturally we cry up disease, for that is our business; but, I am happy to say, that the tendency in our day is to place more stress on the investigation of natural processes, so that we may be better able to recognize them when they become abnormal. We have hitherto put the cart before the horse, and our partial progress has been attained by pushing instead of drawing. It is on this account that I attach comparatively little importance to vivisections as a means of discovery. Experiments on living animals may corroborate or test a great disclosure; they seldom or never find one out. It is the recollection of what we have previously observed, passed through our mental alembic, which enables us to discriminate differences and recognize agreements. While I despise the senseless, sentimental outcry now being raised against vivisections, I think it is our duty not to overestimate them, and to make such experiments the exception, not the rule. Sir Charles Bell, in his classical work on the "Nervous System," asserts that if he had commenced with experiments, they would have misled him. He made his great discovery by means of dissections and clinical observations.

The extreme period during which the ovaries are active may be set down as forty years, say from twelve to fifty-two years of age. In the great majority of women, this period is limited to thirty years, say from sixteen to forty-six years of age. Before twelve and after fifty-two the possession of procreative power in women rarely exists; although a few recorded cases point to its possibility. Men may retain their virile power to extreme old age.

In childhood, the ovaries only contain microscopic ova; and after the menopause these organs become

atrophied, and all traces of germs finally disappear. In reproductive processes, nature seems to be ultra-generous. The number of ova in each ovary is out of proportion to the number of possible children. Many of these ova, no doubt, remain undeveloped; but even of those which reach the surface, and are capable of impregnation, how small a portion ever fulfil their function! Then, again, during each month there is a period during which the ovary is quiescent, and another period during which it is active. These may be called the cycles of involution and evolution. When the latter attains its maximum force, the ovary becomes nearly twice as large as at the close of involution, and is so sensitive to pressure that a tyro might conclude that it was inflamed.

Strictly speaking, the ovary is a gland which secretes free cells. It maintains an intimate connection with many other glands—a relationship more marked during pregnancy, but also noticeable during menstruation. More unsolved problems are probably connected with this relationship than is generally supposed. Jaundice, albuminuria, salivation, and mastodynia, may all be connected with, or dependent on, changes in the ovary. One reason why robust women (corresponding to the peasant class in Europe) recover more readily from puerperal diseases than pampered ladies, is the greater activity of the glandular system in that sort of patients. If we take puerperal albuminuria as an illustration, I think there need be no doubt that the affection does not arise from organic disease of the kidney, but is simply a functional disorder, following sympathetic changes in one or more of the reproductive organs. Anything which interferes with a single link of the chain affects the whole.

If we except syphilis, perhaps no other disease pursues a more insidious course, or fathers so many obscure symptoms, as gonorrhoea. Dr. Noeggerath, of New York, long ago directed our attention to this subject, and his assertions were generally met by the profession with almost scornful scepticism. I think that the sweeping verdict he passes upon commercial travellers is exaggerated; but the longer I live I meet with more and more cases which can only be satisfactorily explained on his theory—the existence of latent gonorrhoea.

When I was a medical student, in 1841, I asked our professors of anatomy and obstetrics, separately, this question, Why do prostitutes so seldom conceive? The answer from both was substantially the same; they said, they are driven beyond conception by their mode of life. For many years, I could get no better answer than this from anybody. But modern gynecology has demonstrated that the gonorrhoeal discharge passes from the vagina through the uterus and Fallopian tubes to the ovaries, and, exciting peritritine inflammation, is the true cause of sterility in prostitutes, and also, I am sorry to say, in many virtuous married women. Among the latter class especially this is not always preceded by an acute attack. The affection may be communicated by a mild, concealed gleet, which the husband himself is not cognizant of. As Dr. Noeggerath has pointed out, poisonous mucus may lie in a shallow cul-de-sac, near the bladder, and be discharged along with the semen, during coition, months or even years after the patient has seen any discharge at the meatus.

I suppose that bacteriologists, if they admit the premises, would explain the infection by the presence of

<sup>1</sup> Read before the Section of Obstetrics and Gynecology of the Suffolk District Medical Society, December 15, 1886.

a specific germ, which the attending physician had failed to dislodge. I do not express any opinion on that head. As the accommodating showman says: "You pays your money and you takes your choice." But whether caused by wicked germs or more ancient pathological processes, there can be no doubt about the widespread mischief resulting. The fibrous ovarian sheath becomes thickened, the Fallopian tubes are filled with muco-pus or closed, and it is highly probable that the ova themselves never become fully developed. If this happens to both ovaries or both oviducts, sterility is inevitable. We should also recollect that in many cases where the epididymis has been inflamed, spermatozoa are not to be found in the so-called semen, and the male is also sterile.

This brings us to the absorbing question, Should the ovaries ever be removed on account of metrorrhagia, salpingitis, long-continued agonizing pain or intractable pelvic disease? I refer, of course, to Battey's and Lawson Tait's operations. Many conservative physicians aver that removal of the ovaries unsexes a woman, changes her soft voice to a harsh, masculine tone, produces a beard and mustache, and takes away her sexual appetite. I believe that all, or nearly all, of these charges are baseless. We have good reason to conclude that sexual desire is not annulled within a period of at least four years after either operation. The only thing they annul is the ability to conceive; and, in our day, that is not reckoned much of a curse by many women. I am inclined to think that both the advocates and the opponents of female castration have been guilty of exaggeration. It is too true that the modern surgeon, like the American base-ballist, is apt to go to extremes. I have no doubt that some ovaries have been sacrificed which might and should have been saved, and I am also quite sure that many women have been left to drag out a miserable existence for years,—an opprobrium to the healing art, and a terror to their relatives,—who might have been spared untold mental and bodily suffering by a simple surgical operation, if the medical attendants had not been befogged by the ancient dogma of unsexing their patients. For sex is not lodged in either ovary or testicle: if in one part more than another, it is in the brain.

A long series of observations has convinced me that insanity in women often depends on sexual disorders, and, in such cases, can only be cured by treatment applied to the reproductive organs. The first case which impressed this conclusion on me occurred in Blackstone, Mass., in 1852. The patient was a young married woman, of Irish extraction, under the care of the late Dr. Kimball. She manifested signs of melancholic insanity, and attempted to commit suicide by striking her head with a dull hatchet in more than twenty places. We dressed her wounds, and got a neighbor to watch her, but on the second night she got out while the watcher dozed and drowned herself in the river. As it was a case for the coroner, we were allowed to make a post-mortem examination, and found inflammatory disease in the left ovary, with pus in the corresponding oviduct.

In cases of hystero-epilepsy, where the fits are prolonged and the mental powers are beginning to deteriorate, in consequence of ovarian disease, the best treatment is to perform Battey's operation. This is one of the grounds where even the most conservative gynecologists admit that the operation is justifiable.

It seems to me that in cases of long-continued severe pain, after the usual remedies have failed, we would be blameless if we removed the offending organs. There are other kinds of work besides childbearing which women can acceptably perform.

I have only seen one case where I thought that their removal was vindicable. The patient was an unmarried lady, about thirty years of age, who had suffered for several years from pelvic neuralgia so agonizing that latterly she had to give up work entirely. She was attended by Dr. Barss, of Malden, who called me in consultation. The operation was performed while I was absent in Europe, more than two years ago, and has proved successful. I learned recently that, although both ovaries were removed, she has menstruated regularly since the operation.

General practitioners are more interested in another class of patients, in whom the symptoms arise from suddenly-arrested menstruation, and there is no good ground for believing that the ovaries are seriously diseased; and yet, in the great majority of such patients, sterility results. A brief description of a typical case will illustrate what I mean. Five years ago I attended an unmarried lady, nineteen years of age, in whom menstruation was suddenly arrested by sea-bathing. Severe pelvic pain, sympathetic vertex headache, and a sense of constriction near the diaphragm, continued at intervals for a year, notwithstanding active treatment. Finally, she recovered, got married six months later, but has never become pregnant. To this day the diaphragmatic constriction remains, and the menstrual flow is gradually becoming scantier. Whether a sufficient degree of low-grade inflammation occurred to close the fimbriated extremities of both tubes, or, what is more probable, the nervous shock arrested the development of ova, I cannot say. Only this, that in all such cases I feel warranted in telling near relatives that sterility is highly probable.

I have only time left to state several questions relating to my subject, without attempting to discuss them. Is menstruation inseparably connected with ovulation? To give a correct answer, we should bear in mind that rare instances have occurred where three ovaries existed in one person; and also, that single ovaries may be abnormally implanted in the human parovarium, following the type of certain lower animals. In most cases, removal of the ovaries arrests menstruation within a few months. In Dr. H. R. Storer's celebrated Malden case, where he removed everything except an inch of the cervix uteri, the menses appeared eighteen days after the operation, lasting thirty hours, and were attended by the usual feeling of lassitude, backache, etc. The patient was forty-seven years old, unmarried, and had never conceived. The explanation seems to be, that the original menstrual impetus, in some cases, continues for a time after removal of the ovaries.

Negrier believes that the ovaries act alternately, one ovary active one month, perfecting ova, while the other is quiescent; the latter active next month. This somewhat fanciful theory receives a slight support from the circumstance that, when only one ovary is diseased, the pain sometimes returns every alternate month. Ovariectomy has decided one problem for us: it has proved that the sex of the fetus does not depend on the particular ovary which furnishes the germ; that is, that the right ovary does not furnish males, and the left females, exclusively, or *vice versa*.

Sir Spencer Wells tells us that ten patients, from each of whom he removed one ovary, afterwards conceived and bore children of both sexes. A woman with one ovary may even have twins of opposite sexes.

The proportion of male and female children born all over the world is so constant that we cannot help concluding that it must be regulated by a law as yet undiscovered. Here is a promising field for ambitious gynecologists. Whoever does make the discovery is as sure of fame as William Harvey. If I might be allowed to hazard a suggestion, it would be this,—that the determination of sex does not depend on anything done by either father or mother, but occurs long prior to conception in the ovary or testicle. That is to say, I believe that the agency which determines sex depends on peculiarities in the ova or spermatozoa, existing before coition.

One of the most interesting problems waiting solution is the sympathetic or metastatic affections connected with disease of the ovaries or uterus. Thus it is quite common for patients with ovarian disease to be troubled with intolerance of light, double vision, and some other eye-disorders. The same thing is often observed during pregnancy. Have we a correlation of diseases as well as one of forces? The first time that my attention was forcibly directed to this subject, strange to say, was among soldiers. In 1864, we had an epidemic of mumps in the 55th Regiment Massachusetts Volunteers, (colored), followed in eight or ten of the cases, by orchitis. The assistant surgeon thought that it was merely a coincidence, and I was at first inclined to concur with him; but soon became satisfied that the two diseases were more closely related. Dr. Goodell, of Philadelphia, has an article on "Inflammation of the Parotid Glands following Operations on the Female Genital Organs," in Volume X, Transactions of American Gynecological Society, which will amply repay perusal.

The only other example of sympathetic reaction I shall allude to to-night, is the increase of sexual desire in young women affected with phthisis. I have only seen one well-marked instance; but experienced medical friends say that they are convinced of its occurrence. What is the cause? Is it an illustration of the tendency of plants to run to seed when debilitated through a deficiency of nourishment? Does the fact throw any light on the greater fecundity of poor families as compared with rich ones? Perhaps some member will be kind enough to solve, or try to solve, these problems for us.

#### DERMATITIS VENENATA CAUSED BY LEUCANTHEMUM VULGARE.

BY JAMES S. HOWE, M.D.

LEUCANTHEMUM vulgare is the name of one of our common plants, which is known in different localities as white weed or field daisy. It is not indigenous in America, but was naturalized from Europe, being accidentally brought to this country by means of its seeds, which were mixed with those of other plants. It is most plentiful in New England, being still abundant in the Middle Atlantic States; and occurs more or less commonly all over the country, including Canada. It is spreading rapidly, and may be expected anywhere in cultivated lands. It is found throughout

the greater part of Europe, excepting in the extreme North and South, extending even to the Ural Mountains and Southwestern Siberia. It is not found in Portugal, Southern Spain, Sicily, Greece, Lapland, or Finland, and only in the southern parts of Norway and Sweden. Botanists say that the same limitations of distribution which exist in Europe will probably govern the spread of the plant in this country. Here in New England it is very abundant in the fields and meadows, being particularly noticeable during the months of June and July, when it is in full bloom. That it is capable of producing a very intense and troublesome form of dermatitis, and that this fact is not generally known to the profession, has induced me to present several cases of poisoning from this source which have come under my care.

My observations thus far have led me to suppose that it will prove harmful only to those who have a decided susceptibility to the poisonous effects of other plants. In fact, I can go so far as to say that I have yet to see a single case where the patient has not already had one or more attacks of dermatitis, caused by some of the well-known plants which produce the same results as the daisy. I am led to record these cases, not that I can add anything to our present knowledge of these forms of dermatitis and their treatment, but in the hopes of pointing out a source of dermatitis venenata, which, I believe, is not yet recognized by the profession at large.

CASE I. Mary B., aged six years. Two brothers and a sister of this little girl went out into the country, in the month of June, to a picnic; and gathered, while there, a large number of white daisies from the fields, and brought them home to their sister, who was confined to the house by some slight ailment. She was playing on the floor, minus her shoes and stockings, when the flowers were given to her; and remained there for half an hour, holding them in her lap and playing with them, as any child naturally would. The following morning her feet, legs, genitals, hands, and face were the seat of a severe dermatitis, with marked oedema of the legs below the knees, and also of the genitals. When I saw the case again, late in the afternoon, vesicles of small size, and closely aggregated, had formed in various-sized groups and patches upon the affected parts. These were accompanied by intense pruritus, and within the next twenty-four hours nearly all the vesicles had ruptured. This was followed by a gradual subsidence of all the troublesome symptoms, and also by excessive exfoliation of the skin; and, in about ten days, all the affected surfaces had returned to a normal condition. This child had been twice before poisoned by rhus, according to the mother's statement, neither attack being very severe; but it is doubtful if the child had handled the ivy so freely as she had the daisies.

CASE II. Willie D., aged five years. I saw this case in July, early one morning. I found a very marked efflorescence on the backs of the hands and between the fingers, with small, closely-aggregated vesicles in the latter position. What particularly attracted my attention was a well-defined band of a decided erythematous character, extending around the forehead and across the tips of the ears. Upon close inspection, I found this same region to be the seat of a very fine, papular rash, with here and there an already-formed vesicle, while the papules all showed a marked tendency to vesiculation. Upon the face and chin were also small patches of a fine, papular eruption, varying

in size and shape, and particularly marked upon the upper lip and the tip of the nose; also under the right eye, which was partly closed, owing to the oedematous condition of the lower lid. The only one of these patches where vesiculation had taken place was on the upper lip, which presented a condition closely allied to that of herpes labialis. On careful inquiry, I found that the child had, the day before, picked an armful of white daisies; and its mother had woven them into a wreath, which the child had worn upon its head for some time, with the above result.

Within twenty-four hours the fine papules on the forehead had nearly all changed to vesicles, presenting, in the form of a vesicular band, a very peculiar and unusual appearance. The mother was not poisoned, although I inspected her hands and face regularly for several days. She had never had any form of dermatitis resulting from poisonous plants, although, the year before, the child had suffered from a severe attack of a similar nature to this as regards symptoms, caused, as her physician told her, by ivy, although there is no proof that it might not have been caused by white weed.

This case yielded readily to treatment, excepting on the forehead, where, two weeks later, there was still decided redness and desquamation.

CASE III. Miss F. H., aged eighteen, had been poisoned by rhus a number of times when young, each succeeding attack being of less severity than its predecessor, until she had come to believe that ivy, so far as she was concerned, was comparatively harmless. While on a visit in the country she went out one morning to gather flowers in a garden, in one neglected corner of which was a large patch of white weed. After picking some flowers, the daisies attracted her attention; and she picked a basketful of them, and took them into the house and arranged them in a vase. That night she frequently awoke, always finding herself afflicted on the hands, forearms, and face with an intense burning and itching sensation, to relieve which she naturally scratched and rubbed the parts affected. The next day, when I saw her in the afternoon, there was a decided swelling of the hands and fingers, which, with the forearms and face, presented as complete a case of dermatitis as I ever saw.

Between all the fingers, and on the forearms, were many fine, closely-aggregated vesicles, the backs of the hands and face presenting only a fine, papular rash, with marked swelling and redness. The agony caused by the burning and itching was so marked, that the patient could only be kept quiet, and secure sleep, for three successive nights, by the use of opiates. The next day vesiculation took place inside the hands, beneath the thickened epidermis, both hands presenting the appearance to the sight and touch of a typical case of cheiro pompholyx. Relief was not long delayed, and desquamation followed in a few days. This patient rather doubted my statements when I told her that the white weed was the cause of all her trouble, and warned her, in the future, to carefully avoid it. The remembrance of her trouble kept her, the rest of that season, from making any further experiments with daisies; but the following year she again gathered some, with a similar result to the former one, only this time she escaped more luckily than before, all the symptoms being less severe than in the first case, although sufficiently so to call for active treatment.

CASE IV. I have, myself, been twice severely poi-

soned by white weed, the first case being the only one I had ever seen or heard of until I saw the one which is first described in this paper. As a boy, I had been often and very badly poisoned by ivy and dogwood, sometimes twice or three times in the same summer; hardly a season passing from my eighth to my sixteenth year without an attack, each of which was less severe than the former one. From my sixteenth year to the present time I have never been poisoned by dogwood or ivy, although I have often been in close proximity to them both, and even frequently brushed against them. Six years ago, while in the country, I gathered a large number of daisies, and carried them to the house where I was staying, never for a moment thinking what the result might be. That night I awoke, feeling upon my face and hands the most violent pruritus, and wondering what could have caused it; and such was its severity, that my sleep was very broken during the remainder of the night. In the morning I found that my hands and arms, as far up as the elbows, were covered with a very fine, papular eruption, the papules being arranged in groups of various sizes, while the entire surface was of a livid, angry-red color. My face revealed, on inspection, the same appearance, while both eyes were partly closed, the under and upper lids being oedematous. By evening of the same day the papules on my arms and hands had become vesicles, although it was another twenty-four hours before the vesicles appeared on my palms and the palmar surfaces of my fingers. The heat and itching was very troublesome, while my whole face was much swollen, feeling very hot and tense; and within forty-eight hours after exposure to the white weed, both eyes were so tightly closed that I could not see out of them at all. Strange to say, no vesicles appeared on my face, with the exception of a few on the chin. Sleep was only secured for several nights by the use of opium, until the acute symptoms had gradually subsided. Desquamation took place over the entire surface affected. The vesicles on the palmar surfaces, instead of rupturing externally, gradually coalesced, and the thickened skin came away in large stripes and patches, as is seen in so many cases of cheiro pompholyx. I had never heard of dermatitis before caused by daisies; and a physician who saw me at the time felt sure it was caused by rhus, although I insisted it was not, and could only attribute it to the white weed.

I have never touched a daisy since then until this past summer, being very careful to give them a wide berth. Last July, however, while out in the country, I passed through a field where there was some white weed; and, without thinking what I was doing, I caught the stem of one of the larger flowers between my second and third fingers, and snapped off the flower at the top. That night I awoke, and found myself scratching these two fingers, and immediately surmised the cause of pruritus. The next day, on the inner surfaces of these same fingers, was a group of fine vesicles, extending from the tip to the base of each finger; and rupture of the vesicles, with subsequent desquamation, was the result of this very mild attack. It is my rule now to warn all my patients with dermatitis caused by plants, to be very careful with regard to white weed; and, in the future, I expect to see more cases from this same source.

How many of the cases of dermatitis venenata attributed to rhus, dogwood, and sumach, may have

been really caused by white weed we shall never know; but, with an increased knowledge of poisonous plants, our diagnosis in the future will, of course, be more accurate.

## RECENT PROGRESS IN ANATOMY.

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### THE THIRD TROCHANTER.

THE occasional appearance of this process in man is familiar to all anatomists, but there are several questions connected with it that deserve study. One of these is in which sex it occurs most frequently. A discussion arose at a meeting of German anthropologists at Breslau in 1884, between Professors Albrecht and Török, the former maintaining that it appeared chiefly in females, which the latter was disposed to dispute. Albrecht had on his side a work on the subject by Dr. Houzé, of Brussels. The latter holds that the development of the third trochanter is in direct ratio to that of the gluteal region, which he says is more developed in Caucasians than in Africans, and in women than in men. Although he recognizes that fat has much to do with the formation of the nates, he seems to think that the muscles are also more developed in women. We must say, in parenthesis, that this is surely a mistake. Dr. Houzé found the third trochanter three times out of ten female femora, and only once among ten male ones, all from inhabitants of Brussels. This author describes a depression for the insertion of the gluteus maximus, which he calls the *fossa hypotrochanterica*. It is only occasionally present. This fossa is situated externally to the outer continuation of the *linea aspera*, between it and the outer margin of the bone which may be developed into a ridge. When this fossa is present the bone is usually broader than in other cases. This is an important observation, as showing how the same muscle may have very different surfaces for its attachment.

The gluteus maximus may be attached to a knob, a ridge, or a depression. Houzé examined bones of different periods, and found that bones unearthed in Belgium belonging to the reindeer period have rarely a third trochanter; but that it occurs in thirty-eight per cent. of those of neolithic times, and in thirty per cent. of to-day's inhabitants of Brussels. The converse is true of the *fossa hypotrochanterica*. In the reindeer times it was very common, less frequent in the neolithic era, and now very rare. We are indebted to the recent paper by Professor Török<sup>1</sup> for this account of Dr. Houzé's monograph. Török examined fifty-four skeletons, thirty-eight male, and sixteen female. He declares that the third trochanter is not most common in women, and that the fossa is not so rare in modern times. He found the third trochanter twenty-eight times in the seventy-six male thigh-bones, and eleven times among the thirty-two female ones, to wit: 36.81 and 34.32 per cent. respectively. He found the fossa in twenty-five femora, of which all but two were male ones. We would observe that while it is evident that Houzé's series are absurdly small to establish the relative frequency of the occurrence of this process in the two sexes, Török's are by no means sufficiently large.

Török makes the observation that while the great

and the small trochanters are each developed from an epiphysis of its own, the third trochanter is not. This brings us to the question, which we believe is quite a new one, whether every prominence at this point has the same significance. It is well known that some of the most striking instances of a third trochanter are found in delicate femora. In strong bones, with great rough lines for muscular insertions, more or less of a prominence is frequently found in the same place, but perhaps it may be questioned whether the former is not an instance of an analogy to lower animals (like the supra-condyloid process) and the latter merely an accidental elevation. Between these extremes all degrees are found. We have seen some examples of the third trochanter which it would be hard to believe did not arise from a separate centre of ossification, and Professor Török gives us no data showing how extensive his observations on this point may have been.

Our author concludes his paper with a table showing the relative frequency of the different forms of insertion of the gluteus maximus, namely, into a ridge, a depression, a tubercle (the third trochanter), and into combinations of these. The one hundred and eight cases were divided as follows.

#### SIMPLE INSERTIONS.

1. The ridge, — 25 male and 13 female bones.
2. The tubercle, — 4 male and 5 female bones.
3. The fossa, — 14 male and 1 female bone.

#### COMPLEX INSERTIONS.

4. The tubercle and the fossa, — 14 male and 1 female bones.
5. The tubercle and the ridge, — 10 male and 5 female bones.
6. The fossa and the ridge, — 9 male and 1 female bone.

In this connection we would mention an observation by Mr. Treves<sup>2</sup> of two remarkably-developed third trochanters observed during life on a man of fifty. "Following precisely the gluteal ridge of the femur was a bony outgrowth four inches in length. It was quite smooth, projected directly backwards, and appeared to be about one inch in height and half an inch in width. It was no wider at the base than at the free border; and this edge was perfectly distinct, even, and rounded. When the gluteus maximus was brought out into action, the fibres of the muscle were found to be inserted into this ridge, and during the contraction the free border of the bony mass was rendered indistinct. Both femora were marked by like projections, and the symmetry of the two abnormal ridges was in every respect complete."

#### THE DEVELOPMENT OF THE MASTOID PROCESS.<sup>3</sup>

Symington remarks that, while the anatomy of this part of the mastoid has been well worked up in the infant and the adult, but little attention has been paid to it in childhood. In fact, the mastoid process does not exist in the infant; but there is a cavity extending back from that of the tympanum. It is separated from the cranial cavity by a very thin plate of bone. The mastoid process becomes distinct at about the end of the first year; and the walls of the cavity become thicker and thicker, till, at puberty, a process of absorption begins, and the fine, cancellated tissue becomes cavernous. The mucous membrane, of course, makes its way into these cells. It is well known that the inside of the adult mastoid presents considerable diversities, which must depend on the process of absorption. The cavity in the mastoid is of about the same size in infants and in children, but in the latter it

<sup>1</sup> Journal of Anatomy and Physiology, Vol. xxi, January, 1887.

<sup>2</sup> "The Mastoid Portion of the Temporal Bone," Edinburgh Medical Journal, October, 1886.

<sup>3</sup> Anatomisches Anzeiger I Jahrg. No. 7, September, 1886.

has much thicker walls. The author calls particular attention to a thick layer of fine, cancellated bone between the mastoid cavity and the lateral sinus, which, in childhood, keeps them well apart; but which, in the adult, may be changed into air-cells, some of which are separated from the sinus only by very delicate partitions.

#### THE SUPERCILIARY MUSCLE.

Heule, in his great work on anatomy, divides the *orbicularis palpebrarum* into three portions: The palpebral part proper, in the eyelids; the orbital part, around the margin of the orbit (in which he includes the so-called *corrugator supercilii*); and the malar portion, consisting of fibres from the outer and inner sides of the orbit, which converge as they descend, and end in loops or in the skin. Merkel<sup>4</sup> now proposes to further subdivide the *orbicularis*, and to make a superciliary muscle above the orbit, which shall correspond to the malar one below it. We should mention that Merkel does not recognize loops in the malar muscle, but represents it as of two convergent portions ending in the skin. To balance this, therefore, the superciliary muscle is divided into parts running upward and converging. The inner of these is our old friend, the *corrugator*; the outer is less distinctly defined.

#### THE PROSTATE MUSCLE.<sup>5</sup>

Mr. Reginald Harrison of Liverpool, has an idea of the prostate which certainly is not in accord with the usually accepted one. By the term "prostate muscle," he means the prostate itself, and apparently considers its glandular function as secondary to its work as a sphincter. He believes that, during life, the prostate never presents its post-mortem appearance of a hard body, of about the shape and size of a chestnut, excepting for the few moments when the bladder is completely empty. At other times, he holds that it is spread out like a funnel, supporting the bladder; the degree of expansion of the prostate varying, of course, with the distension of the bladder. Mr. Harrison goes on to say: "Hence the action of the prostate may be said to be just as continuous as that of the heart." Mr. Harrison invokes, in support of his views, the results of rectal examination when the bladder contains a certain amount of urine. If the shape of the prostate were what it is commonly supposed to be, one would find the greatest hardness and prominence in the median line; but Mr. Harrison points out that the centre of the prostatic area is softer and more yielding to the touch than the sides where there is a marked ridge presenting more or less tonicity.

#### THE UMBILICAL FASCIA.<sup>6</sup>

Richet called particular attention to this fascia in 1856-57, although its occasional appearance had been previously alluded to. He described it as a fibrous layer attached, at the sides, to the posterior sheath of the rectus, and having a superior concave edge a little above the inner aspect of the umbilicus. Between this and the *linea alba* ran his so-called umbilical canal, which, in its relation to umbilical hernia, he endeavored to make analogous to the inguinal canal. His views, in France, at least, received no great support. Tillaux finds the umbilical fascia of rare occurrence, and the canal an imagination.

Dr. W. Sachs, of Dorpat, has investigated the question anew, and has had the advantage of examining a large amount of material. He has studied the arrangement of the fascia in the first month of life and at later periods. He finds it no rarity at the earliest part of extra-uterine life. It was well marked in two-thirds of the children, ten days old or less, that he examined. It showed, however, much variation. The upper and lower borders were by no means always to be made out; and when they could be, it was far more common to find the lower border opposite or near the umbilicus than the superior one, as according to Richet. At the end of the first month the fascia and the peritoneum are, perhaps, more closely connected, but no important change has occurred. Sachs examined the bodies of 92 children who died during the first year of life; and found this fascia more or less clearly marked in 58, and wanting in 34. Of the 58, the fascia presented no definite boundaries in 33; the lower edge was sharp in 22, and the upper in only 3. In 35 cases the fascia ended above the umbilical ring, or close to it. It was well developed behind the ring in 23.

The outer coat of the bloodvessels, or what remains of it, is now converted into a number of cords; but, as the child grows, these become less and less important, and, for the most part, do little to support the umbilical ring. The relation of the umbilical fascia now becomes of consequence. If it be well developed directly behind the ring, it materially strengthens this weak point in the abdominal wall. If, on the other hand, the lower edge of the fascia is above or opposite the umbilicus, a pocket of peritoneum may pass under the edge of the fascia; and this form seems to be considered a predisposition to umbilical hernia.

#### METHODS OF PRESERVING THE BRAIN FOR DEMONSTRATION.

The first of these is recommended by Schwalbe<sup>7</sup> for making dry and hard preparations of the brain. The brain is first hardened in chloride of zinc, or in alcohol. After the removal of the pia, the necessary cuts are made, for this method is apparently applicable to parts of the brain, rather than to the whole organ. If chloride of zinc has been used, it is washed out with water; and then, in either case, the preparation, carefully supported, is put into strong alcohol. How long this is continued is not stated; but, as the object is to remove all water, it probably requires some time. We are told that, for whole hemispheres, it is desirable to change the alcohol often. The specimens are then transferred to turpentine, in which the larger ones remain for eight days, and the smaller for a shorter time. The next step is to thoroughly impregnate the pieces with paraffin. Schwalbe chooses a kind that melts at 45° to 50° C., and keeps the fluid paraffin in a hot-box, in which the temperature is kept at 60° C. The specimen remains in the paraffin-bath from five to eight days, after which it is taken out and allowed to dry, precautions being again taken to preserve the shape. Paraffin that melts at a higher temperature is likely to cause shrinking. The longer the preparations are kept in the paraffin, the darker they grow. The same paraffin may be used repeatedly, but it, unfortunately, grows darker. The specimens, when finished, are hardly at all shrunken, which seems to be the great merit of the method. They resemble paraffin models,

<sup>4</sup> Anatomischer Anzeiger, II. Jahrgang, No. 1, January, 1887.

<sup>5</sup> The Lancet, December 4, 1886.

<sup>6</sup> Virchow's Archiv., Bd. 107, 1887.

<sup>7</sup> Anatomischer Anzeiger, I. Jahrgang, No. 13, November, 1886.

and can be cut into slices or dissected with a knife or a heated spatula.

The other method, devised by v. Lenhossack,<sup>1</sup> is likewise intended to prevent shrinking of the brain. It has the advantage over the other that it does not change the color, but the disadvantage that the specimen must be kept in alcohol. The brain is first hardened by any of the usual methods, alcohol, chloride of zinc, Müller's fluid, etc., but it is necessary that it should pass some time in alcohol before the special procedure is begun. This consists of painting the brain, which has been carefully and thoroughly dried, with a solution of medium thickness of celloidin dissolved in equal parts of alcohol and ether. This painting should be carried to the bottom of all the fissures, which should have been kept open during the hardening by cotton wool or filtering paper. This coating dries in a few minutes, and, as above stated, does not change the color of the brain, but gives a gloss to it. Though the brains must be kept in alcohol they may be removed from it and used for perhaps two hours without injury.

#### THE ANATOMY OF THE LIVING STOMACH.

The recent great progress in abdominal surgery calls for a kind of anatomical knowledge that is by no means general nor easily gained. Not only is it necessary for a surgeon to know the appearance of organs *in situ*, but he must know how they look during life. It may be questioned whether this can be thoroughly learned in any other way than by actual experience, but attention must now be paid to points of visceral anatomy that have been passed over as unimportant. This is well shown by the case reported by Dr. Meinhard Schmidt.<sup>2</sup> The essential points of the case are that for certain obscure symptoms, pointing to the stomach, he opened the abdomen of a woman of about forty. He was puzzled to find near the duodenum two distinct circular constrictions of the stomach. The one to the right was recognized as the pylorus, but the other, about one and a half finger-breadths from it, was more marked in its upper part, and almost as small. On the anterior surface of the pylorus he saw a patch of tendinous-looking tissue with radiating processes. As there had been a suspicion of ulceration in this region, and as it seemed not unlikely that this patch was the result of inflammatory changes at the base of the ulcer, an opening was made in the stomach and everything found perfectly healthy.<sup>3</sup> Dr. Schmidt points out that this tendinous appearance, though not constant, is normal, and is described by Heule. We give a few lines of the description which embraces another point of interest: "Two bands, the *ligamenta pylori*, are formed by the longitudinal muscular fibres, one on the front, the other on the hind side of the stomach, which (like the *ligamenta coli* to be described later) cause by their relative shortness the folding in of the other layers of the wall of the stomach which forms the entrance and exit of the *antrum pyloricum*. The tissue of the peritoneal coat is sometimes thickened over them, having a tendinous look and being richer in elastic fibres."

Professor Windle<sup>4</sup> has written a paper on "Sacculations of the Human Stomach," which concerns us in

this connection. Apart from constrictions due to pathological causes he finds that there are both temporary and permanent ones. Temporary ones are, of course, those due to the contraction of a part of the muscular coat, and we have no doubt that such occur, but we feel great hesitation in accepting, as temporary, some that Prof. Windle describes as such. He quotes a case reported by Struthers in which the stomach was examined the day after death, and presented a considerable contraction which resisted moderate distention with air for *several days*, till finally it yielded to greater force and no sign of the constriction remained. Surely we cannot suppose that a band of muscular fibres remained contracted for several days; and if we do not so suppose, why is it a case of temporary contraction? Prof. Windle admits that there are undoubted cases of permanent contraction making a reduplication of the stomach, and reports a case in which there were two such constrictions. We fully agree with him that the pouch, when there is but one, is sometimes at least only a high degree of separation of the *antrum pylori*. He holds also that there are intermediate stages between the antrum and this sacculations. For a description of the antrum we turn again to Heule. "The *antrum pyloricum* is separated from the rest, or the body, of the stomach by a constriction near the pylorus, which is more marked on the upper than at the lower border." Quain has the following passage in small type: "There is sometimes a distinct constriction near the pyloric end of the stomach, imperfectly separating it into two parts. This condition may be in great measure the result of local contraction of the muscular coat, but is occasionally of a more permanent character (Struthers.)"

Professor Windle refers to several authors who have written on this subject, but does not appear to be acquainted with the paper by Retzius,<sup>5</sup> to which Dr. Schmidt refers, and which is a very satisfactory one. It has no place, perhaps, in a report on *recent* progress, but none the less it deserves to be recalled to remembrance. The learned author discusses the *antrum* in man and in some of the lower animals. We shall refer only to his human observations, and to those very briefly. He finds that there are three classes of *antra*. The first is, perhaps, the more common one. It is bounded by the pylorus on one side and a constriction about one inch from it on the other. The second kind is a peculiar one. The pyloric end of the stomach is long and slender, so that it is sometimes mistaken for the duodenum. There may be two constrictions in the greater curvature and but one in the lesser. The third is the conical form.

### Therapeutical Memorandum.

#### "TEMPERANCE DRINKS."

ABSTRACT OF REPORT TO THE MASSACHUSETTS BOARD OF HEALTH BY THE BOARD'S ANALYST.

THE provisions of the Food and Drugs Acts of Massachusetts give authority to the State Board of Health to make inquiries as to the purity of drugs sold in the State, and also as to any other matters of a sanitary significance in connection with the subject. Much work has been accomplished and a better condi-

<sup>1</sup> Anatomischer Anzeiger. 11. Jahrgang No. 3, February, 1887.

<sup>2</sup> Zeitschrift der Anatomie des Magens am Lebenden, etc. Berliner Klinische Wochenschrift, No. 32, 1886.

<sup>3</sup> The patient made a good recovery.

<sup>4</sup> Proc. Birmingham Philosophical Society, Vol. I, Part 1, Session of 1885-6.

<sup>5</sup> Müller's Archiv., 1887.

tion of affairs secured in regard to the official or pharmacopoeial preparations.

Inquiry has also been made as to certain non-official, or empirical articles such as the so-called opium cures, all of which were shown to be grossly fraudulent; and also as to certain cosmetics of an actively injurious character. Further work has also been done in the examination of empirical tonics or bitters, with reference to the amount of alcohol contained in them.

Some of these are recommended as remedies for intemperance. The following report was recently made by the analyst of the State Board of Health, and the results obtained would seem to show that the inebriate would fare better by giving to all such nostrums a wide berth.

"Of the forty-seven following samples of proprietary tonics and bitters, I here give the detailed results of their assay for the percentage of alcohol contained, and the admissions of the presence of, or claims of the absence of alcohol, as given upon their labels and wrappers. The per cent. of alcohol is given by volume."

#### TONICS.

Carter's Physical Extract, Georgetown, Mass. Dose 1 teaspoonful, 3 times daily. 22 per cent.  
 Hooker's Wigwam Tonic, Haverhill, Mass. 1 tablespoonful, 3 times daily. 20.7 per cent.  
 Hoodland's German Tonic, Philadelphia. Admits Santa Cruz rum. Wineglass, 4 times daily. 29.3 per cent.  
 Hop Tonic, Grand Rapids, Mich. 1 tablespoonful to wineglass, 3 times daily. 7 per cent.  
 Howe's Arabian Tonic, New York. "Not a rum drink." Tablespoonful to wineglass, 4 times daily. 13.2 per cent.  
 Jackson's Golden Seal Tonic, Boston. Admits Marsala wine. Half wineglass 3 times daily. 19.6 per cent.  
 Liebig's Co's Coca Beef Tonic, New York. "With sherry." 3 teaspoonfuls to wineglass, 3 times daily. 23.2 per cent.  
 Mensman's Peptonized Beef Tonic, New York. "Contains spirit." 1 tablespoonful to 3, 3 times daily. 16.5 per cent.  
 Parker's Tonic, New York. "A purely vegetable extract," stimulus to the body without intoxicating. "Inebriates struggling to reform will find its tonic and sustaining influence on the nervous system a great help to their efforts." Dose as tonic 1 to 2 teaspoonfuls, 1 to 3 times daily. 41.6 per cent.  
 Schenk's Sea Weed Tonic, Philadelphia. "Distilled from sea weed after the same manner as Jamaica spirits is from sugar cane. It is therefore entirely harmless and free from the injurious properties of corn and rye whiskey." Dose, half wineglass, 3 times daily. 19.5 per cent.

#### BITTERS.

Atwood's Quinine Tonic Bitters, Boston. Dose, half tablespoon to wineglass, mixed with water, wine or spirit, 3 times daily. 29.2 per cent.  
 L. F. Atwood's Jaundice Bitters, Portland, Me. Half tablespoon to wineglass, 1 to 6 times daily. 22.3 per cent.  
 Moses Atwood's Jaundice Bitters, New York. Half tablespoon to wineglass, 1 to 6 times daily. 17.1 per cent.  
 H. Baxter's Mandrake Bitters, Burlington, Vt. 1 to 2 tablespoonfuls. 16.5 per cent.  
 Boker's Stomach Bitters, New York. Dose not given. 42.6 per cent.  
 Brown's Iron Bitters, Baltimore, Md. "Not a substitute for whiskey." Tablespoonful. 19.7 per cent.  
 Burdock Blood Bitters, Buffalo, N. Y. Teaspoonful to tablespoonful, 3 times daily. 25.2 per cent.  
 Carter's Scotch Bitters, Georgetown, Mass. Tablespoon to wineglassful. 17.6 per cent.

Colton's Bitters, Westfield, Mass. Teaspoon to 2 tablespoonfuls, 3 times daily. 27.1 per cent.  
 Copp's White Mountain Bitters, Manchester, N. H. "Not an alcoholic beverage." Wineglassful. 6 per cent.  
 Drake's Plantation Bitters, New York. "Contains St. Croix rum." Wineglassful, 3 times daily. 33.2 per cent.  
 Flink's Quaker's Bitters, Boston. Teaspoonful, 6 times daily. 21.4 per cent.  
 Goodhue's Bitters, Salem, Mass. Half wineglassful. 16.1 per cent.  
 Hartshorn's Bitters, Boston. Tablespoon to half wineglassful. 22.2 per cent.  
 Hoodland's German Bitters, Philadelphia. "Entirely vegetable and free from alcoholic stimulant." Tablespoonful, 4 times daily. 25.6 per cent.  
 Hop Bitters, Rochester, N. Y. 1 to 3 tablespoonfuls, 3 times daily. 12 per cent.  
 Hostetter's Stomach Bitters, Pittsburgh, Pa. Wineglassful, three times daily. 44.3 per cent.  
 Kaufmann's Sulphur Bitters, Boston. "Contains no alcohol." Tea to tablespoonful. It contains no sulphur, but has 20.5 per cent.  
 Kingsley's Iron Tonic, Northampton, Mass. 1 to 2 teaspoonfuls, 3 times daily. 14.9 per cent.  
 Langley's Bitters, Boston. Half wineglass or more, 3 times daily. 18.1 per cent.  
 Liverpool's Mexican Tonic Bitters, Boston. Half to full wineglassful, 3 times daily. 22.4 per cent.  
 Oxygenated Bitters, New York. Tea to tablespoonful. Acid but no alcohol.  
 Pierce's Indian Restoration Bitters, Boston. Up to wineglassful and to 6 times daily. 6.1 per cent.  
 L. Porter's Stomach Bitters, New York. Tablespoonful or more. 27.9 per cent.  
 Rush's Bitters, New York. Wineglassful, 4 times daily. 35 per cent.  
 Dr. Richardson's Concentrated Sherry Wine Bitters. Wakefield, Mass. Tablespoonful to half wineglass or more, 3 times daily, "or when there is sensation of weakness or uneasiness at the stomach. 47.5 per cent.  
 Secor's Cinchona Bitters, Providence, R. I. Half wineglassful, 3 times daily. 13.1 per cent.  
 Shonyo's German Bitters, Concord, N. H. Table to wineglassful. 21.5 per cent.  
 Job Sweet's Strengthening Bitters, New Bedford. Tablespoonful to wineglassful, 3 times daily. 29 per cent.  
 Thurston's Old Continental Bitters, Lynn, Mass. Tea to 2 tablespoonfuls. 11.4 per cent.  
 Walker's Vinegar Bitters, New York. "Free from all Alcoholic stimulants. Contains no spirit." Half to full wineglass. 6.1 per cent.  
 Warner's Safe Tonic Bitters, Rochester, N. Y. Table to wineglassful. 35.7 per cent.  
 Warren's Bilious Bitters, Boston. Teaspoon to 2 tablespoonfuls, 1 to 3 times daily. 21.5 per cent.  
 Wheeler's Tonic Sherry Wine Bitters, Boston. 2-3 wineglass, 2 times daily. 18.8 per cent.  
 Wheat Bitters, New York. Desert to wineglass, 3 times daily. 13.6 per cent.  
 Faith Whitcomb's Nerve Bitters, Boston. Tablespoonful, 3 times daily. 20.3 per cent.  
 Dr. Williams's Vegetable Jaundice Bitters, Lowell, Mass. Half to full wineglass, 1 times daily. 18.5 per cent.

### Clinical Memorandum.

#### THE AMBLYOPIA OF SQUINT.

BY O. F. WADSWORTH, M.D.

In the *Journal* of February 24th, Dr. Hasket Derby attempts to give a comparison of the vision found in his cases of convergent strabismus with that which I had given in a paper with the above title

(JOURNAL, January 20th). The attempt seems to have been not altogether successful. In the first place he says, "I rejected all cases of alternating strabismus." Why these cases, universally admitted to possess a higher degree of vision than the average, should have been thrown out, and then the remainder compared with my series, in which such cases were included, does not clearly appear. Then, a table based on this remainder, the class with highest vision having been eliminated, is given, which table does not show the amount of vision in the squinting eye, and we read, "By comparing these results with Dr. Wadsworth's a considerable difference will be at once apparent." No even approximately accurate comparison is possible under the circumstances.

There follows, "Deducting his [Dr. Wadsworth's] cases of alternating strabismus, he found vision equal in both eyes in 20.4 per cent., and 1 in only six per cent. of the cases." No statement of the number of cases with vision 1, is to be found in my paper. I said of my cases of convergent strabismus with vision precisely the same in each eye, "in seven of these (two alternate, one periodic),  $V. = \frac{1}{3}$  to  $\frac{1}{4}$ ." This gives, if the alternating cases are thrown out, 9.6 per cent., if both alternating and periodic cases are thrown out, 8.3 per cent. with vision *greater* than one. There was evidently an error in Dr. Derby's calculation.

The next sentences read: "Both he and Schweigger find thirty per cent. of their patients to have vision less than 1-7 (0.14) in the squinting eye. I find however, fifty-seven per cent. to come under this category. Out of my 160, 91 had vision less than 0.14 in the eye that converged. Moreover, half of Dr. Wadsworth's cases had, in the squinting eye, vision from 14-20 to 14-30; or putting it in decimals, of very nearly 0.5. I find only 11 per cent. (18 cases out of 160), to have this amount of vision."

In both these comparisons, with Schweigger's statistics and my own, Dr. Derby compares the vision of his cases of convergent strabismus, the alternating cases thrown out, with that of a series of cases which comprised both convergent and divergent strabismus, the alternating cases included. No wonder he found the results "startling."

I hasten, however, to fully acquit Dr. Derby of any intentional unfairness. Probably he was misled by his enthusiasm in defence of a theory in which he believed.

That there would be found a difference in the amount of vision in Dr. Derby's cases and my own, when properly compared, I think extremely probable. Such difference would naturally be found in the comparison of any two small series of cases. But I have already emphasized the importance of the greatest care in the determination of the vision of a squinting eye, and I believe that the comparatively high vision that I have found is in part due to the, perhaps from a practical point of view excessive, care and time that I have devoted to these cases.

That Dr. Derby should feel unable to explain the amblyopia of squint except on the suppression theory is perhaps explained by his statement in the discussion at the meeting of the New England Ophthalmological Society, that in his experience monocular amblyopia without visible cause and without squint is extremely rare. In my own experience it is by no means uncommon, and my experience does not stand alone in this regard.

In one respect at least, the effect of operation on vision, I am glad to find, there is no wide discrepancy between Dr. Derby's experience and my own views.

There is one other point on which a misunderstanding might possibly arise. I am quoted by Dr. Derby as observing with regard to cases of alternating strabismus "the suppression is not constant and therefore amblyopia does not result." For those who have read my paper explanation is unnecessary. The opinion quoted was not put forth as my own, but in the course of my statement of the views of those who, with Dr. Derby, believe in *amblyopia ex anopsia*. The very next line in my paper reads: "This is, I believe, a fair statement of the theory." And in the discussion at the meeting of the New England Ophthalmological Society I said that I thought it probable that in all cases of squint the squinting eye, at least when its amblyopia was not excessive, was occasionally brought into momentary use, but that I had employed the term "alternating" in its usual significance, that is, to denote only those cases in which the alternation was evident.

## Reports of Societies.

### SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

DECEMBER 15, 1886. DR. JAMES R. CHADWICK in the chair.

The proceedings opened with a discussion upon a paper read at a former meeting by DR. E. W. CUSHING, of which the following is a *résumé*.

#### EROSIONS OF THE CERVIX UTERI,

illustrated by microscopic preparation, and microphotographs as well as by photographs from life and from various authors, all of which were projected on a screen by means of a stereopticon.

First calling attention to the classifications of erosions by the older writers, he referred to the changes of opinion caused by modern microscopic research and to the mistakes made in not distinguishing post-mortem changes from pathological processes, and then referred to the labors of Ruge and Veit, not readily accessible to American practitioners.

The substance of the work of these authors shows that what are called erosions, ulcerations, etc., are various degrees of one process, which consists essentially in a new formation of glandular tissue, on the surface of the vaginal portion, or in the cervical canal.

The glands are formed by a reduplication, or sinking inwards, of the lowest layer of the cells of the rete malpighi, which are developed into a delicate cylindrical epithelium, forming a layer which everywhere lines the glands as well as the parts between them.

The latter forming partitions grow upward, while the glands grow downward, but still the projections are everywhere covered with a continuous layer of cylinder epithelium. The process goes on under the layer of flat epithelium which naturally covers the cervix, outside of the cervical canal; this layer is then lost, but no proper erosion occurs; what was formerly considered as such is a patch where the flat epithelium has been replaced by glandular formation.

The follicles and cysts are not usually enlargements of preëxisting ducts, but are newly formed glands without ducts. In ectropium there is essentially the same process going on in the cervical canal, thus everting the lips.

The above described active formation of glandular tissue may spread over the outer surface of the vaginal portion, where few, if any, glands normally exist; it may even extend to the vagina.

In exaggerated cases it resembles cancer so closely that the best experts cannot make a diagnosis without the aid of the microscope. In a comparatively large number of cases cancers of the cervix are preceded by this condition of gland-formation, or, to state it otherwise, these so-called erosions, when inveterate, not infrequently become cancerous.

A pathological condition of this kind, where normal tissues are wholly supplanted by new-formed glands is at best suspicious, and, considered pathologically, it is no wonder that it often serves as the starting-point of cancer.

These propositions Dr. Cushing proceeded to explain and demonstrate by some twenty slides and photographs, showing step by step the growth of the so-called erosions in virgin and parous and lacerated cervixes. The micro-photographs were mostly the work of Dr. M. Greely Parker, of Lowell, and were made by lamplight. The stained sections from which the micro-photographs were prepared, were made by Dr. Cushing in the Harvard laboratory. The photographs of patients etherized ready for operation, showed very clearly the appearances of erosions of various degrees as seen through the speculum.

In regard to ectropium in lacerated cervixes the reader stated that, if he understood Emmet aright, he thought the latter erred in considering the erosion as directly a consequence of the laceration of the cervix, in fact as only an exposure to sight of a not very abnormal cervical mucous membrane.

Dr. Cushing considers the process as just the opposite, that is, the mucous membrane becomes diseased from some cause not at present fully understood, but personally he believed the irritation to be due to some form of bacterial growth. Where there is a laceration, of course the cervical canal is more accessible, and more ready to take on diseased action, but without lacerations, and even in virgins, as previously shown, the same glandular endometritis goes on.

Where there is no laceration, the growth is more compressed, and spreads more or less evenly in a ring round the os uteri, actually supplanting the flat epithelium, normally clothing the vaginal portion. The condition of laceration permits of an eversion of the swollen lips rolled asunder by the thickened mucous membrane and the swelling glandular tissue and cysts. The latter, moreover, even go over on to the surface of the vaginal portion, sometimes even on to the vagina.

In the matter of treatment of erosion, the reader stated that everything depends on the condition of the uterus; for the erosions are merely to be considered as a symptom of a glandular endometritis, which has become visible, either by spreading beyond the normal limit of the cervical columnar epithelium or by everting a more or less patulous os, or by a combination of both processes.

For convenience the cases may be divided into:

(a) Those of so-called simple erosion, in virgins or

nullipare, associated with ante flexion of the uterus, or with stenosis of the os, or with elongation of the cervix, or with various combinations of these conditions, in most cases causing dysmenorrhœa.

(b) Erosions and endometritis of moderate degree, with subinvolution following parturition.

(c) Erosions with ectropium, as complications of a lacerated cervix; in either of the last two classes there may be a more or less complete rupture of the perineum; in any case there may be parametritis, salpingitis, adhesions, etc.

(d) Inveterate cases with induration of cervix and suspicion of commencing malignant degeneration.

In all these cases except in the second class, and provided there is no inflammatory trouble in the parametrium, the most satisfactory results are to be obtained by surgical measures. Even where parametritis, so-called, is present, with our present knowledge of salpingitis, we can frequently remove the whole focus of inflammation in the form of a diseased Fallopian tube.

The reader then described the medical treatment of the first form of cases, mentioning the good results obtained by the method of douches, dilations, tampons with cotton and boroglyceride, etc., with intra-uterine applications as elaborated by Dr. Wylie; but considered it rather a serious matter to condemn a virgin to such continued local treatment and advocated a thorough dilatation of the cervix, under ether, a curetting of the diseased endometrium, all under strict antiseptic precautions and sublimate irrigations; straightening the uterus if ante flexed with an intra-uterine stem, removing part of the cervix by the methods of Schroeder and Martin, if hypertrophied, and thus at once, without danger, if properly performed, doing more for the patient in an hour than can be done by months of local applications, more in fact than can usually be accomplished at all by the latter method.

In the second class of cases where after parturition, although there is little laceration of the cervix, the uterus remains subinvolved, with endometritis and erosions, Dr. Cushing believed that the subinvolution is caused by the endometritis, and not *vice versa*, that is, they are the result of a mild sepsis or bacterial infection; and precisely these cases when not too inveterate, are susceptible of cure by antiseptics, such as nitrate of silver, tincture of iodine, or strong carbolic acid. Of these the latter applied thoroughly on a cotton holder is the most effective. Of course, hot douches, ergot, strychnine, etc., may also be indicated. Even in old cases, where the uterus is enlarged and hardened, much good can be accomplished by this sort of treatment, but the results are usually not very satisfactory, and in the next class of cases, where there is cervical laceration the indications for surgical interference are even more imperative.

Nevertheless, where want of courage or opportunity, on the part of the patient, or a want of faith in surgical measures, on the part of the physician, exclude operative interference, the patient can be made comfortable, and with patience, apparently cured sometimes, even in cases of ectropium, by puncturing the cysts, scraping off as much of the glandular tissue as is possible under the influence of cocaine, and applying, at intervals, strong carbolic acid to the mucous membrane.

The dry treatment with iodoform and iron-cotton,

as used by Dr. Englemann, was described; also the use of strong, constant currents of electricity, by Dr. Apostoli, of Paris.

Nevertheless, Dr. Cushing thought it more scientific and satisfactory to give the patient ether, scrape out the uterus, after thorough disinfection; remove the glandular hypertrophy at once; repair the lacerations; make a good os, covered with flat epithelium; and thus cure the patient.

At the same time, if, as is very frequently the case, there is a rupture of the perineum, possibly complicated with cystocele or rectocele, the perineum can be repaired, and the appropriate colporaphy performed to remedy the other lesion.

How much more, then, in cases where there is any symptom of malignant degeneration of the erosions, is it the plain duty of the attendant physicians to recommend thorough removal of the suspected tissues?

The consensus of authority all over the world asserts that inveterate cervical erosions are peculiarly liable to cancerous degeneration; and every one who is in a position to see many cases of cancer of the cervix, knows that it is the saddest part of his mournful duty to tell the patient that it is "too late to remove it all."

In no one thing is a greater advance to be hoped for than in the early recognition and removal of whatever seems either malignant or doubtful; or so inveterate as to be likely to be an early stage of that most dreaded of all the ills to which the sex is subject, namely, a cancer of the womb.

Dr. Fitz, in opening the discussion, said that he had but little to add to the statement of the reader concerning the pathological changes which are to be found, as the basis of erosions. The investigations of Ruge and Veit had immediately attracted general attention, all the more readily, perhaps, from the repeated opposition of Fischel. The latter observer did not dispute the nature of the anatomical changes, but claimed a different method of origin. He regarded the erosions as an extension outwards of the cervical mucous membrane, and the replacement by it of the vaginal membrane. He subsequently discovered that, in a large fraction of new-born children, a physiological erosion was present; and assumed that the eroded cervix of the adult represented the exposure of depressions existing at birth, which had subsequently become covered with pavement epithelium. Unfortunately for this theory, the intervening stages have not been discovered. The occasional presence of ovula nabothi in the uterine lips is not to be regarded as the persistence of congenital conditions, but as the permanent remains of an erosion which has disappeared.

The use, by the reader, of the term glandular endometritis, as synonymous with erosion, seemed inappropriate. The former affection is usually considered to be limited to the body of the uterus; and to represent a simple hyperplasia of the normal constituents of the uterine mucous membrane. The erosion, on the other hand, is found in the vaginal portion of the cervix; is essentially vaginal, and represents the transformation of a normal tissue into one abnormal to the part. Cellular infiltration, vascular injection, and hemorrhages are common to both processes.

Two questions suggest themselves as important in connection with the future history of erosions: the one as to their cause, especially in virgins; and the other as to their relation to cancer. The former view,

that erosions were the result of the macerating effect of secretions flowing from the uterus, was no longer to be maintained.

The possibility of other causes than an endocervicitis or an endometritis was obvious, and clinical observations must be largely relied upon for their discovery. Dr. Fitz expressed a decided doubt, from the structural point of view, as to the importance of erosions in the etiology of cancer. The structure of cancer in various parts of the body simulates that of the epithelial surface with which it is in most intimate relation. Cancers of the body of the uterus are likely to be of the cylindrical-celled variety, while cancers of the cervix are usually pavement-celled. Were the latter the result of the inversion of an epithelial surface covered with cylindrical epithelium, which is admitted to be the method of production of the erosion, the resulting cancer, from all analogy, should prevent cells of a similar type.

Dr. Fitz desired to say another word with reference to the origin of cancers from erosions. It is the popular view that cancers are the result of local irritations, and popular views are not likely to be scientifically accurate. Like Dr. Chadwick, he had heard nothing this evening but opinions and beliefs concerning this relation; and, however valuable they might be, were still not to be regarded as evidence. The woman with a mammary tumor is sure to have been struck on the breast, or might have been injured there, if the cross-examination is sufficiently searching. Certain pipe-smokers have cancers of the lip; therefore, the irritation of the pipe-stem must be the cause. There were too many possibilities and uncertainties in the etiology of cancer for the recognition of local irritation as anything more than a possible cause. It was just as important to determine the number of cases of erosions not followed by cancer as to record those of cancer preceded by erosions. Pipe-smoking is much more prevalent than are cancers of the lip; and the latter may occur in persons unaccustomed to carry pipes, or even tooth-picks, in the mouth.

Dr. W. H. BAKER said that he considered erosion a cause of cancer of the cervix. In the majority of cases, cancer affects the lower part of the uterus, and in the majority of cases where there has been injury to the cervix. Undoubtedly, local irritation has considerable influence in the cause of cancer. It is important that the general practitioner should be able to recognize cancer of the cervix, for they see the cases generally before the specialist; and treatment, to be beneficial, should be given early. Erosions, even when slight, are important, and should be treated then and there; and, possibly, cancer might be obviated. In the cases of virgins, he did not agree with Dr. Cushing that it was best to apply operative measures early. These erosions are found in virgins suffering from constitutional disease; and, in these cases, more benefit would be derived from constitutional rather than local treatment, the latter being a shock to her, both nervously and physically. She can use, perhaps, hot-water injections and constitutional treatment; and if, after some months, these fail, then we should operate, instead of trying prolonged local treatment.

In cases of subinvolution without any decided laceration of the cervix, but erosion, one will get much benefit by operating. Both Dr. Seth Gordon, of Portland, and Dr. A. P. Dudley, of New York, have obtained

good results, by operating, in reducing the size of the uterus.

In cases of lacerated cervix, benefit from an operation is unquestionable. It is necessary to operate when the laceration extends beyond the crown of the cervix; and good may often, also, be obtained by operating where the tear does not extend to the crown, because the laceration intensifies the glandular secretion. He has seen, in a few virgin uteri, this condition, without any cause other than disease of the endometrium, which produced increased size and pouting out of the endometrium. An operation is needed in these cases; and, generally, one will give good results.

In the class of cases where there is beginning malignant disease, an operation should be performed. By so doing, life may be prolonged, and, possibly, the disease eradicated. The microscope should be used to decide whether all the disease has been removed.

DR. MARCY had little to offer except in commendation of Dr. Cushing's valuable paper.

Before Dr. Emmet had published his views, now so generally accepted, upon laceration of the cervix as the great fundamental cause of so-called erosions, Dr. Marcy had operated upon a case, diagnosed by several experts, as a probable epithelioma. There was a large mass of cellular proliferation which proved to be only glandular, and the removal was performed in a manner nearly identical with that of Dr. Martin, of Berlin, called after his name.

The turned-in vaginal flaps united perfectly, and later pregnancy supervened. The delivery was normal and the patient remains well.

Dr. Marcy repeated this operation successfully for a number of years, until he adopted that of Dr. Emmet as an improvement. However, in doing so, he underrated the factor of glandular hypertrophy, and had many partial failures because the removal was not thoroughly effected.

In 1876 Dr. Marcy accidentally saw the prize essay of Prof. Ercolani, of Bologna, upon the "Utricular Glands of the Uterus," and repeated many of the studies of this master. His other contributions upon this subject and its relation to the reproductive processes, were found in the Transactions of the Academy of Bologna, in the University Library, and translated for the benefit of the English readers; the second edition, enlarged, appeared in 1880, under the title of "The Histology and Pathology of Reproduction."

These studies brought clearly into prominence the importance of the glandular structures, not only of the endometrium, but also of the cervical canal. In their pathological changes are found many of the causes of dysmenorrhœa, leucorrhœa, of sterility, etc., which swell the long catalogue of woman's ills. He had for a considerable time believed the changes of circulation, innervation, nutrition caused by these growths, had much, probably more, to do as cause of epithelial cancerous development than the fact of pregnancy, or injury resulting therefrom.

The cause of this glandular hyperplasia is obscure. It certainly does not depend upon sexual activity or childbearing. It is not uncommonly met with in the virgin, and often in a very marked degree in the sterile, not seldom as a cause of sterility.

These enlarged glands can be reduced in their activity by the more ordinary means of treatment, hot water douches, tampons of glycerine, carbolio acid,

nitrate of silver, etc., but, when let alone, they usually take on increased activity. For a considerable period Dr. Marcy had operated surgically upon a large class of the severer forms of the disease, removing the hypertrophied glandular tissues and restoring the parts by modified plastic operation as seemed best suited to restore the parts to a normal condition. In no instance had he seen cause to regret so doing. These measures were in very large degree devoid of danger when done aseptically, a few days rest in bed, almost without suffering, gave a cure at once radical and effective.

Few subjects of a greater practical importance had been discussed before the Section, and our thanks were due to Dr. Cushing for his beautiful illustrations clearly showing a phase of disease certainly not generally recognized.

DR. C. M. GREEN said he could add nothing to what had been already said, except to emphasize the importance of thoroughly removing all hyperplastic tissue, in the operation for restoring a lacerated cervix, before closing in the cervix with sutures. Some operators make only a very superficial denudation; and although a shapely cervix may be the result, much cystic tissue is left which will be likely to cause trouble in the future.

DR. STROSG said that the operation proposed by Schroeder seemed to him the most perfect, theoretically, of any, for by it the whole mass of diseased gland tissue was removed; but there were some practical difficulties that make trouble in carrying out the details of the operation; first, it was impossible to slit the cervix up high enough to remove all the glands without the risk of involving the peritoneum or causing hæmorrhage; second, the stitch was almost certain to tear out at its upper part, near the os internum, as the parts were thrown together, as it could not be passed deeply. The speaker also alluded to the influence of laceration of the cervix in causing epithelioma, stating that in the large number of cases of malignant disease of the cervix that he had observed in his clinics at the Massachusetts General Hospital, and the Free Hospital for Women, not one occurred except where pregnancy had formerly existed. The experience of those present was asked upon this point, which seemed to the speaker an important one, as, if virgins are not predisposed to epithelioma as a consequence of erosions, much more time can fairly be given to an attempt to cure these by constitutional treatment, instead of at once adopting local measures.

DR. J. W. ELLIOT considered that erosions in the virgin were due to ill health. If erosions are found in the new-born child, why may they not be from congenital non-development? So far as operating goes Dr. Emmet's operation is not always applicable, but Dr. Schroeder's is more to the point. In virgins when the anterior lip rolls out he does not think the operation should roll in the diseased part, and removes a healthy wedge. He has operated on several virgins (?). He has seen three cases of cancer in virgins.

DR. J. R. CHADWICK said that he had for many years been familiar with the views as to the so-called erosions of the os to which Dr. Cushing had so ably drawn attention this evening. He had no doubt as to their correctness in a large proportion of cases, but had been unable to satisfy himself that every case was to be explained on the theory of glandular hypertrophy. He was still disposed to attribute a few of the

cases to simple erosion. These views were, however, based upon clinical and not upon histological researches.

He had never seen the *slightest evidence* that laceration of the cervix predisposes to the subsequent development of cancer. He had had in his practice quite a number of multiparous women affected with cancer. Dr. Fitz's statement, made this evening, that the common form of cancer, originating in the cervix is composed of such histological elements as to show that it does not develop from the glandular hypertrophy under discussion gives unexpected weight in opposition to the generally prevalent ideas to which Dr. Baker had just given expression. Dr. Chadwick consequently never recommends the repair of a lacerated cervix from any fear of subsequent malignant growth. The importance attributed to what has been hitherto known as erosions of the cervix has, in his opinion, been greatly exaggerated. He has never been able to connect any symptoms with this condition except leucorrhœa, and in rare cases hemorrhage, or local tenderness. He has never discovered any reflex phenomena, although he has sought them persistently. Retroversion, subinvolution, hypertrophy, congestion and all other conditions commonly attributed to the laceration, he thought much more naturally explained by referring them to the same cause as produced the laceration, namely, a difficult or unduly rapid labor.

Dr. W. SYMINGTON BROWN, of Stoneham, read, by invitation, a paper, entitled,

#### THE RÔLE OF THE OVARY.<sup>1</sup>

### THE NEW YORK ACADEMY OF MEDICINE.

STATED Meeting, February 3, 1887.

The President, Dr. A. JACOBI, delivered his

#### INAUGURAL ADDRESS

on entering upon a second term of office; and, in the course of it, alluded particularly to the successful working of the various Sections of the Academy, several of which are now in active operation; and to the urgent need of a new building, with more ample accommodations than the present hall.

#### A COMMITTEE ON BUILDING SITE

was appointed, which consisted of Dr. George A. Peters, Dr. F. A. Castle, and the President; representing, respectively, the Council, the Board of Trustees, and the Academy at large.

Dr. JOHN H. GIRDNER read a paper on

#### THE DETECTING AND LOCATING OF METALLIC MASSES IN THE HUMAN BODY BY THE INDUCTION-BALANCE AND THE TELEPHONIC PROBE.

The induction-balance, the invention of Prof. Alexander Graham Bell, first suggested itself, he said, in the summer of 1881, after the shooting of President Garfield. The attempt was made to locate the ball in his case by this means; but, owing to the crudity of the apparatus, the lack of experience in its use, and the disturbing element of a large steel mattress on which the patient lay — a fact unknown at the time — the result was unsatisfactory.

Dr. Girdner then proceeded to describe the apparatus,

which, he said, would be indispensable in time of war. An ordinary bichromate battery of six cells was used, and it was necessary that there should be an interrupted current; about six hundred interruptions per minute having proved the most useful for the purpose. For the induction-balance two currents were required, the primary and the secondary, or induced; and each current passed through two coils of wire, one of which was twice the size of the other. The larger coils were called the exploring coils, and the smaller ones the adjusting coils. The former, which were simply laid one upon the other, were secured to a large disc of wood, provided with a handle, which was called the *explorer*; and the coil of the induced current was connected with a telephonic receiver.

When no metallic substance was in the vicinity of the explorer, no sound whatever was heard by the ear placed at the telephonic receiver; but when the explorer was brought near a metallic mass, the presence of the latter was indicated to the ear by the sound heard in the receiver, this sound increasing in intensity as the explorer approached nearer and nearer the mass. The greatest intensity of sound was reached when the centre of the explorer approached the nearest to the metallic body. Fortunately for the successful application of the instrument, experiment had shown that living tissue was the best conductor of the sound.

The telephonic probe was also the invention of Professor Bell. A telephonic receiver was connected with a piece of steel laid upon the surface of the body, and also with a long needle, which was to be inserted into the flesh at the point indicated by the explorer as that at which the sound in the telephonic receiver of the induction-balance was most distinct. As soon as the point of the needle came in contact with the metallic mass, a sharp click was heard in the receiver.

Colonel Clayton, a gentleman who was shot in the breast at the Battle of Cedar Mountain, during the late war, and still retains the ball in his thorax, presented himself as a subject for illustrating the *modus operandi* of the induction-balance; and, by means of this apparatus, the location of the ball was readily determined to be at the junction of the clavicle with the sternum, although the scar of the wound made by the missile was at some distance. In order to demonstrate the working of the telephonic probe, Dr. Girdner employed a piece of beef, in which a mass of lead was deeply imbedded; and the experiment of detecting its precise location was entirely satisfactory to all who had the opportunity of personally testing the apparatus.

Dr. NEWTON M. SHAFER read a paper on

#### THE USE OF TRACTION IN THE TREATMENT OF CLUB-FOOT, WITH A CONSIDERATION OF SOME OF ITS MECHANICAL PRINCIPLES INVOLVED; AND A DESCRIPTION OF THE ANTERO-POSTERIOR AND LATERAL TRACTION APPARATUS.

He said that, more than ten years ago, he commenced a series of experiments in connection with the treatment of traction; and that the results of these early experiments were embodied in a paper which he had published in the autumn of 1878. This was, however, merely a professional paper; and since the time of its appearance, he had made many improvements in the apparatus he employed. Further experience had fully convinced him of the great importance of the "fresher" principle.

<sup>1</sup> See page 225 of this number of the Journal.

Dr. Shaffer illustrated the normal foot-movements by a series of diagrams. There was only one centre of antero-lateral rotation in the ankle-joint, he said; and this centre of motion was situated below the malleoli. In order to correct the deformity of talipes equinus, the heel must be made to move downwards and forwards, and the toes upward and backward. The neck of the astragalus rotates around the same centre of rotation as the heel and toes, and it rotates upward and backward. The normal movements of the foot should be exaggerated, on account of the resistance which is met with.

In the conventional clubfoot apparatus there were various defects. Thus, as the anterior part of the foot rotates upon its artificial ankle-joint centre, or, in other words, as we crowd the *os calcis* into the heel-cup, and attempt to flex the foot, the heel, unless restrained, slips forward. The attempt is made to control this movement by tying the heel down to the foot-plate, and in the heel-cup, with the heel-strap. If after this heel-strap is tied, a considerable pressure be applied in the direction of flexion (even, in many cases, after tenotomy), the further tendency of the heel (being restrained in front by the heel-strap), is to slip upward and backward away from its artificial annular ligament, ultimately, in many cases, resting on the top of the heel-plate which forms the cup. When this occurs, all control over the foot is lost, as it turns toward that side upon which the contractions exist. One of the direct effects of mechanical flexion, as applied in the customary forms of apparatus, to overcome either a post-tibial or a plantar contraction, is to crowd the tarsal bones together.

Dr. Shaffer then described his antero-posterior traction apparatus, by means of which, through the agency of a worm and screw, any desired angle of flexion or extension could be secured. The Scarpa heel-cup, which had been so long and universally employed, he said, was not necessary here, and a semi-circular opening was provided for the descent of the heel. In connection with the traction heel-strap, an astragalar strap was worn over a pad, and this astragalar strap was to be loosened in order to allow of rotation. When plantar contractions were to be overcome, however, the astragalar strap should not be loosened.

In equinovarus the lateral pushing force had many advantages over a lateral pulling force. The lateral traction apparatus, which he also described and exhibited, acted, he said, as a lateral pusher (everting the foot), brought the foot up into a position of flexion, and caused the anterior portion of the foot to rotate outward.

When we had to do with confirmed deformity, it was necessary that sufficient force should be used to overcome the resistance present, and he spoke of the great benefit which he had seen derived from the employment of *exaggerated* traction, maintained for a few seconds or minutes, according to the degree of tolerance present, and repeated at frequent intervals. In his experience, excoriations occurred only as the result of neglect on the part of the attendants. When the traction apparatus was used, the knife was unnecessary in many cases when it would ordinarily be required. There were, however, a certain number of rare cases which did not yield to simple traction, and in these tenotomy was demanded. In such instances, however, the patients were much more liable to complain of pain and discomfort from the wearing of the

apparatus, (after tenotomy), than in those which were treated by means of traction only. While there were a few cases which would not yield to traction, either with or without tenotomy, Dr. Shaffer said that he knew of no apparatus so efficient and complete as these traction shoes. In conclusion, he stated that nine years ago he had predicted that tenotomy would be much less frequently resorted to than formerly, and he was glad to say that this prediction had been verified.

Dr. RIDLON said that he had not been able to get as good results with the lateral shoe as Dr. Shaffer himself, who was remarkably skilful in applying his traction apparatus. Again, there were certain cases in which the use of traction was not followed with good results. We should be able, he thought, to judge at the beginning whether in any case traction would be beneficial or not, and the test of "point-pressure" enabled us to say whether or not tenotomy was called for. Dr. Shaffer, on the other hand, was in the habit of first trying stretching for a time, and then, if the result was not satisfactory, he performed tenotomy. It was better in his opinion to cut at once in those cases where the operation was required at all.

Dr. KETCH said that he had had an experience of over nine years with the traction shoe, and he desired to call attention to two points: (1) the possibility of treating many cases of club-foot without an operation of any kind, and (2) the fact that the benefit to be derived from the principle of the use of intermittent force, to the credit of the introduction of which Dr. Shaffer was entitled, was not sufficiently appreciated. As early as 1883, Dr. Shaffer had found that the danger of relapse after tenotomy was much less if the traction apparatus was employed.

Dr. A. B. JUDSON said it was clear that this apparatus of Dr. Shaffer was capable of exerting great force, and therefore it was especially necessary that it should be in careful hands. If, however, cases of club-foot were well managed from the first, this violence would not be required. By this he did not mean to reflect in any way upon the method of treatment described; but simply to refer to the desirability of an enlightened opinion in the community upon such subjects.

Dr. SHAFFER said that he was at a loss to understand the want of success in the use of the lateral shoe to which reference had been made. The application was simple, and it was only necessary that the shoe should accurately fit the deformity. The trouble was, he thought, that too much was attempted at first. The process of treatment must be a gradual one, with no haste and no violence. This method was a very easy one when the apparatus was properly adapted to the case, and just as much or as little power as was required, could be used with it. In regard to the matter of "point-pressure," he said that some of his best results with traction alone, had been obtained in cases in which this so-called test indicated tenotomy. For his part, he knew of no guide by means of which we could decide at first whether cutting would eventually be required or not.

—The *Annales de Gynécologie* which lost Dr. Courty from its editorial staff a year ago, has again been afflicted in the death of Dr. Gallard, one of its founders, physician at the Hotel Dieu, and one of the prominent gynecologists of France.

## NEW YORK NEUROLOGICAL SOCIETY.

STATED Meeting, February 1, 1887.

The President, DR. C. L. DANA, in the chair.

Dr. C. L. Dana reported a case of

**PACHYMENINGITIS HÆMORRHAGICA, WITH LARGE MENINGEAL HÆMORRHAGE PRESSING CHIEFLY ON LEG CENTRE; RIGHT HEMIPLEGIA, TOTAL PARALYSIS IN LEG, APHASIA, HEMI-ANÆSTHESIA, CONVULSIONS LIMITED TO ARM AND FACE. DEATH. EXHIBITION OF SPECIMEN.**

The patient was a woman about sixty-eight years old, and came into the hospital with complete motor aphasia, and unable to give any previous history. She had no paralysis at first, but three days after admission she had a general convulsion followed by right hemiplegia; total in the leg, and some right-sided anæsthesia; on the second and third days she had a series of brief localized convulsions involving the face bilaterally and the right arm. These were carefully observed. The movements were clonic, beginning in the muscles of the lower jaw. The other peculiarities were these: (1) The pupils remained small during the convulsions. When wider convulsive centres are discharging, as in general epileptic convulsions, the pupils are dilated. It is not probable that in this case there was some uræmic element, because the post-mortem disclosed a sufficient cause for them. (2) The conjugated deviation of the eyes was at first, and very temporarily, toward the side of the lesion, and away from the paralyzed side. The head also was turned toward this side. When this occurs, it is ordinarily spoken of as a paralytic deviation. This does not explain it here, since almost immediately the head and eyes were turned strongly to the opposite and paralyzed side.

The speaker suggested that the first deviation is due to an inhibition of the activity of the associated nuclei of the third and sixth nerves that innervate the external and internal recti of the two eyes. There are many facts which tend to show that the first stage of convulsion is a transient paralysis due to a sudden discharge of inhibition centres. These are of a higher, more developed class than the centres for motor discharges, and would be affected first. We would have, then, loss of consciousness, inhibition of motion and muscular relaxation; then motor discharges and tonic and clonic convulsions. (3) The temperature on the paralyzed side was one degree higher than normal and higher by a degree than that of the other side. This is the rule in intracerebral hemorrhage and hemiplegia, but the speaker was not aware that it has been established in cortical hemiplegias. In meningeal hemorrhages the temperature is often below normal, according to Minot. (4) The presence of hemianæsthesia.

The patient died on the third day. Post-mortem showed chronic pachymeningitis over both convexities, but more on the left side. On the left convexity there was a very extensive fresh meningeal clot pressing upon and flattening especially, the upper half of the central convolution. Brain substance normal.

**CORTICAL EPILEPSY WITH TEMPORARY APHASIA. SYPHILITIC GUMMA COMPRESSING THE LEFT SECOND FRONTAL CONVOLUTION IN ITS LOWER POSTERIOR PART. RECOVERY.**

DR. M. ALLEN STARR related the history of the

case. Charles S., aged thirty-two, had always been healthy and a hard worker. He had an attack of sciatica four years ago, and three years ago had a hard chancre. He had never had convulsions or nervous affection. Family history good. During November, 1886, and the first two weeks of December, he did not sleep well, was slightly dizzy, his head ached a good deal, chiefly at night. December 15th, while walking with a pail in his right hand, he suddenly let it drop, losing all power in the hand and arm. There was numbness in the hand. He was unable to speak to his companions. He did not feel dizzy or notice any pain in the head; he did not lose consciousness nor fall. He understood his friends' questions, but could not answer. Power in the hand and arm, and speech returned within half an hour. The next morning he went to work, as well as usual. Two days later a second attack occurred, beginning with a numb feeling in the tips of the fingers, gradually extending up the hand and arm. Then the fingers became rather forcibly flexed and stiff, but by a voluntary effort he could straighten them. No clonic spasms of the fingers, and wrist and elbow were not bent. The numbness and stiff feeling soon extended to the face, which was drawn to the right side with some force. Speech was again lost. No loss of consciousness. The attack lasted about twenty minutes. Such attacks had occurred every other day, then every day, and finally twice a day up to January 3d, and during this time the headache and insomnia were increasing steadily. The character of the attacks was not uniform. Sometimes the spasm would begin in the face, though usually the arm was first affected. Both were involved in every attack, but the spasm and numbness never reached the leg. The hand felt cold during the attack, though warm to the touch. On one occasion he had for four days great difficulty in making himself understood by words. Examination by Dr. Starr showed slight paresis, and slight tactile anæsthesia in right hand, no affection of face or speech. No cardiac symptoms. Though suffering from headache, percussion of skull did not reveal any tender spots. Thrombosis, endarteritis syphilitica, diffuse encephalitis with sclerosis were excluded, and the diagnosis was reached of gumma in the membranes, resting upon the brain surface, giving rise to irritation and consequently to an occasional nervous discharge, but not of sufficient size to cause any destruction. Location of tumor was equally clear: the relative situations of the cortical centres for the arm, face, and for the movements of speech in the lower two-thirds of the anterior central convolution and in the posterior part of the third frontal convolutions, were likened to a reversed L. All these centres were irritated during the attacks, the irritation sometimes beginning in one, sometimes in another. If the tumor pressed upon the lowest posterior part of the second frontal convolution, which would lie inside of the L, an irritation radiating from it might reach all three centres equally. The total intermission of the local symptoms might be explained by such a location since no symptoms were known to occur from injury of this part. The fact that numbness in the hand and face uniformly accompanied the attacks of spasm seemed to indicate that the areas for these parts coincide with the motor areas.

Another point of interest was the distinctly motor character of the aphasia.

The treatment ordered was first, inunction of mercury, and second, iodide of potash, daily in divided doses. He had one attack two days after beginning treatment, but since that time he had had no return of the symptoms. Iodide of potash was still being taken.

#### DISCUSSION ON DR. STARR'S PAPER.

DR. SEGUIN had seen several cases where symptoms resembled those of the case recorded in Dr. Starr's paper. The prognosis of even non-syphilitic cortical lesions with this symptomatology was not absolutely unfavorable. One of the cases to which he referred was that of a Cuban, who came to his clinic about nine years ago. He had never had syphilis, yet he described epileptic attacks of the true cortical kind, such as have been obtained by experiments upon animals during the last few years. The hand would become numb, and then the seat of a vibratory sensation; finally contraction would occur in the hand, then the face, and almost simultaneously the leg, would be affected, and he would lose consciousness. According to his friends' account general convulsions then occurred. He had had quite a number of these seizures, yet examination showed no anesthesia, no affection of the optic nerve, and so far as the speaker could recollect, no motor impairment. The patient had received a preparation composed mostly of the bromide of potassium to which a little of the iodide was added. He improved immediately, and four years ago the attacks ceased. Once in a while he has the sensation of wires in the hand, and the hand becomes stiff, but the face is never affected. The case was a beautiful illustration of the localization of a lesion in the centers for the hand, the discharge radiating to those of the face and leg of the same side, then to the opposite side, with loss of consciousness.

The patient had also been the object of the bracelet experiment. He was a powerful man, and had exerted great force, arresting many attacks in this way. The speaker was satisfied that syphilis was absent, while the amount of the iodide was too small to explain a cure upon the ground of a syphilitic affection.

DR. STARR had been much interested in the case which Dr. Seguin had related. He had recently had a case of unilateral convulsions in his office. The patient was a small boy. The attack commenced in the eyes and face. The eyes turned to the right, then the head turned to the right, then the arm, then the leg became affected. During the attack the speaker had asked suddenly, "What is your name?" the boy promptly replied, "Arthur," and then relapsed into the convulsion. He supposed that the reply was reflex, as the boy was unconscious at the time and did not afterward remember the occurrence. He would like the opinion of the members upon the point.

DR. DANA asked what Dr. Seguin had considered the lesion in his case.

DR. SEGUIN had never ventured to surmise, beyond the fact that there was a nerve lesion and that there was no syphilis in the case.

DR. STARR asked Dr. Seguin whether in localized convulsions numbness were not the rule.

DR. SEGUIN replied that it was, but he did not know that the reason was yet sufficiently established, although Von Monakow had associated anesthesia with lesions of the motor zone.

DR. SHAW referred to a case seen first four years ago. While at work as a jeweler the patient fell off

his bench in a convulsion. The face and the left arm were convulsed; the leg was not affected. Sometimes only the side of the face was affected. He had seen many of these attacks limited to the side of the face in his office. The patient complained of numbness in the arm and the side of the face. And the speaker felt sure that the tactile sensibility was not as good upon that as upon the other side. The patient denied syphilis. Upon ophthalmoscopic examination the nerves were found pale, and the visual field restricted in its upper part. There was no change until about six months ago, when, without loss of vision, he was found to have choked disk. This had gone on to atrophy, and the man was now blind. There was no paralysis. From the choked disk of course the speaker had now diagnosed a tumor, but he referred to the case on account of the anesthesia and the spasms, and their resemblance to those in Dr. Starr's case.

DR. SACHS referred to the case of a man who, some years ago, while working upon the capitol at Albany had fallen some distance, was found unconscious, but recovered. A few weeks later he developed symptoms which alarmed his friends, and he had now some of the physical and nearly all of the mental signs of general paresis, — the irregular pupils, the facial tremor, the tremor of the tongue, and the deteriorated mentality. The speaker referred to the case because of the traumatic incident, and because every three or four weeks this man had an attack of numbness beginning in the fingers and creeping up the right arm to the face. There never were convulsions, but both the patient and his wife, who is a very intelligent person, say that there is paralysis. After three or four hours both the paresis and the numbness disappeared, and he has a very severe headache, lasting one or two days. The speaker thought there was a question of chronic meningitis with encephalitis possibly in this case. It was evidently a cortical affair.

DR. DANA thought that cortical epilepsy might develop like idiopathic epilepsy without an appreciable lesion. He recalled a case, that of a young man who was kicked in the front of the thigh by a horse. Twitching of the leg developed, similar to that of cortical epilepsy. Thrilling and numbness of the arm and face followed. In a year true hemiepileptic attacks, during which he lost consciousness, developed, and, upon giving him ether for stretching the nerve he went into the status epilepticus. There was no history of syphilis. Apparently cortical epilepsy was developed, just as true idiopathic epilepsy in other cases.

(To be continued.)

— The *Northwestern Lancet* (St. Paul) contrives to get in a sharp rap at a sister city, in acknowledging the first number of a new medical journal published at Chicago, by saying that "there is no city in the country where there is more room for good medical journals than in Chicago."

— At the end of the year 1885-86, the number of cinchona plants on the four Madras plantations of the British Government was nearly 2,000,000, while those of the Bengal Government, at Sikkim, number nearly 5,000,000. The former plantations produced, in the year, 113,300 pounds, and the latter 339,201 pounds. The profits have been so great that private enterprise is beginning to be attracted to the business.

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### IODOFORM NOT AN ANTISEPTIC.

THE universal use of this drug, and the satisfactory results obtained, especially in operative surgery, have inspired great confidence in its power to arrest the development of the omnipresent, much-dreaded germ, and to ward off septic infection, with its attendant disastrous consequences. But this confidence has been dealt a staggering blow by the results of an investigation recently completed, the object of which was to determine the true value of iodoform for this purpose.

Although, perhaps, a suspicion of the real truth may still be the incentive to the series of experiments, still the results obtained must have formed a most startling and unexpected conclusion to the work of the investigators.

Iodoform, during the past few years, has held a position second only to sublimate and carbolic acid. It has been used externally and internally. It has been powdered on surfaces; injected in solution into cavities; or employed in the antiseptic covering of injuries and operation wounds, as the agent which was to hold in check the development of septic processes.

This wide-spread use of the drug in modern surgery as a germicide, or (according to the more generally accepted theory) as a substance which effectually prevented germ development, either by the liberation of free iodine,<sup>1</sup> or the formation of iodides;<sup>2</sup> and also the scanty authentic proof, by actual experiment, of its real antiseptic power, recently attracted the attention of MM. Heyn and Rovsing, of Copenhagen. A review of the work, already published, soon showed that the reputation of iodoform rested mainly on clinical data, the only real work on record being represented by the indefinite results of Kouig,<sup>3</sup> Mikulicz,<sup>4</sup> Rammo,<sup>5</sup> and Meyer.

This, and the knowledge that the clinical evidence

was not wholly trustworthy, since iodoform is rarely used without other antiseptics of known value (carbolic acid, thymol sublimate, usually in solutions for irrigation), led to an investigation,<sup>6</sup> the results of which have recently been made public. In a series of plate-cultures, iodoform appeared to have no power in retarding the growth of the *staphylococcus aureus pyogenes* or *bacillus subtilis*. Various experiments with a mixture of sterilized gelatine and iodoform, with iodoform and olive oil (four per cent.), and a solution of iodoform in blood-serum, showed an unchecked growth of the above-mentioned germs in these media. It was found that the *staphylococcus aureus pyogenes* preserved its vitality, at least a month in dry iodoform powder; and experiments on rabbits, where inoculated fluids were prepared with iodoform, gave similar results.

The above data, it is claimed, show that iodoform, no matter how many other excellent properties it possesses, is, as an antiseptic in surgery, valueless. It is also a dangerous substance, since there is a possibility that the drug itself may even contain pathogenic organisms; and that, even if it can itself be kept aseptic, it does not destroy or prevent the development of microorganisms, which may obtain access to a wound with it, as, for example, when it is applied with an unclean brush or spatula, or introduced by a spray. The full details of the experiments accompany the original publication of the experimenters, who recommend that iodoform, if used where aseptic conditions are necessary, should be disinfected with sublimate as carefully and thoroughly as sutures, ligatures, or instruments.

Johan Olsen's<sup>7</sup> investigations with reference to the influence of iodoform on the bacillus of osteomyelitis (*staphylococcus aureus pyogenes*?) confirm the above results.

It is unnecessary to comment on the value of such results, if true; and their importance to the surgeon and his patients demands an immediate confirmation or refutation of such statements. This may prove to be another instance where a substance, whose reputation rests on clinical evidence, not corroborated by the results of scientific investigation, has really a certain empirical value. But, however this may be, the attention of bacteriologists cannot be too forcibly called to the necessity of an early investigation of this subject; for, if the conclusions noted be confirmed, lives of patients are daily exposed to an unknown danger, since, with the same drug, on which the surgeon relies most to protect the patient from the dreaded germ, he introduces into a wound the very elements of septic invasion he seeks so anxiously to shun. His most trusted ally proves to be not only inert to destroy the enemy, but even the disguise under which the latter enters unseen and unsuspected; and again, through a sense of false security, the employment of other means by which dangers might be avoided are neglected.

<sup>1</sup> Bluz. Arch. f. experim. Path. u. Pharm., 1878, Bd. viii.

<sup>2</sup> Högberg ibid., 1879, Bd. x.

<sup>3</sup> Centb. f. Chir., 1881, 48.

<sup>4</sup> Archiv. f. Klin. Chir., 1881, xxviii., 1.

<sup>5</sup> Centb. f. Klin. Med., 1882, 50.

<sup>6</sup> Das Iodoform als Antisepticum. Fortschritte der Med., 1887, Bd. 5, No. 2.

<sup>7</sup> Norsk Magazin for Lægevidenskaben, 1886, No. 4, § 244.

## THE EXTRA-ASYLUM DEPENDENT INSANE.

## I. THE BOARDED-OUT INSANE.

IN the Eighth Annual Report of the Massachusetts Board of Lunacy and Charity there is much matter for reflection and scrutiny on the part of the medical profession. It concerns the present and future welfare, more particularly of the dependent insane of our State, cities, and towns who are not under asylum protection, treatment, and care. To consider, first, the lot of a few of this class, whose condition, we may safely say at least for the present, is a matter for congratulation, let us turn to the progress of an innovation, in this country, in the way of providing for certain of the chronic insane.

It is now a year and a half since the system of providing for properly-selected cases of chronic insanity, under official supervision in families, went into operation in this State: and, although a much longer trial is needed before its success can be considered established, it has, at least, been proven, by actual practice, that the employment of the "Family System" of caring for this class of the insane may be under proper conditions, as practicable and beneficial in its results in this State and country as it is to-day in Scotland and Belgium. If the scheme should fail, therefore, its failure would probably be due rather to improper management, than to any fault inherent in the system itself.

The objection to this method which is generally urged has been found, it seems, to have the least foundation in fact. It has been thought by some of the least sceptical among the many opponents of the system, that the difficulty of finding families who would consent to receive a lunatic among them, on any consideration, would be a great obstacle in itself; that such as might be willing to make the experiment would not be suitable; and that, finally, the pittance of \$3.25 a week would deter desirable families from even considering the proposition. The experience of those in charge of the boarded-out patients apparently disposes of this objection, and is strikingly similar to that of the Commissioners in Lunacy in Scotland, where the system has long been a flourishing and useful one. As stated in the Report of the Massachusetts Board: "Applications from families in every way suitable have been made — enough to furnish places for twice as many patients as we could send. These families generally live in the rural towns, and are those of mechanics or farmers who are living comfortably; and, although the rate is low for villages, it is sufficient in the farming towns."

Another objection to the system, and a natural one, is suggested by the danger of abuse and neglect of patients so situated. That this fear also is exaggerated appears from the fact previously observed in Scotland, that "it is the almost universal wish of these patients to remain where they are, rather than to go back to the hospital from which they were taken."

That the number of these patients has been small — somewhat over sixty — is apparently due, in a mea-

sure, to a commendable caution in pushing an untried enterprise, as well as to the opposition of various municipal authorities limiting its scope to State patients taken from the State Hospital or from the Tewksbury Asylum. Quite a large number, therefore, who are dependent upon their respective towns for their support, are deprived of the advantages of this kind of care. Should the measure prove to be all that is hoped for, physicians can do good work for the insane by impressing upon their city or town authorities the advantages of this provision for their insane charges now in asylums and almshouses.

The value of this new provision for the insane, now in active operation for the first time in this country, will be judged by the results in this State, and it is to be hoped that experience will warrant the extension of the system to its full limits.

If the system be rightly conducted, its general adoption in this and other States is probable, but regular and frequent visitation of the patients by competent medical and other officials is an important element. The Scottish department owes its results to a board of paid commissioners, the active work in this department devolving upon medical men trained by actual experience as superintendents of asylums. The Board of Lunacy and Charity seems to be alive to the vital necessity of proper supervision; nevertheless the recent legislation in this direction is faulty in not requiring visitation by a medical man of practical experience in the needs of the insane.

## HYDRASTIS CANADENSIS IN UTERINE HÆMORRHAGE.

HYDRASTIS *Canadensis*, or Golden Seal, has been long used in this country as a pure bitter in atonic dyspepsia. The root of hydrastis contains berberin and hydrastin, both of which are believed to have a vaso-constrictive action on relaxed mucous membranes, thus ameliorating congestive states.

Professor Schatz, of Rostock, Germany, was the first to bring hydrastis prominently before the medical public as a uterine tonic. He contrasts it with ergot, which it resembles in its action, but he finds it efficient in cases of uterine hæmorrhage where ergot is powerless. In menorrhagia from whatever cause, in hæmorrhages due to metritis and endometritis, to myoma, to incomplete involution of the puerperal uterus, he has found hydrastis invaluable. Professor Schatz's mode of administration is to give the fluid extract in twenty-drop doses four times a day, and not only when the hæmorrhage continues, but also from one to two weeks prior to the time that the menstrual period sets in, especially in the congestive form.

Since the publication of the paper of Professor Schatz, Professor Slavatsky, of St. Petersburg, has made some interesting experiments with hydrastin, from which he has found that this alkaloid has an æbolic effect on pregnant animals (bitches and rab-

bits), and when given to parturient women, it expedites labor. He puts the maximum dose of hydrastis at one-half grain.

The latest contribution to the subject of the uses of hydrastis in uterine hæmorrhage is by Dr. R. W. Wilcox, in the *New York Medical Journal*, February 19, 1887. His conclusions are based on the observation of the effects of this drug in fifty cases. In three of uterine fibro-myomata, in which he gave hydrastis for metrorrhagia, the flow was speedily checked. Persistent use of hydrastis (for months) was followed by considerable reduction in the depth of the uterine cavity and in the volume of the uterus. Wilcox concludes that hydrastis arrests the bleeding from fibro-myomata by the production of anæmia of the uterine tissues, and he refers to the physiological experiments of Mays, a year ago,<sup>1</sup> which showed "that hydrastin in small doses increased blood pressure, while causing vaso-motor contraction, cardiac inhibition, and anæmia of the alimentary mucous membrane. Mays observed also, uterine contraction, even of the body and horns of the uterus." Fellner, moreover, in some experiments made in 1885, with fluid extract of hydrastis, noticed uterine contractions and anæmia of that organ.

In seven cases of hæmorrhagic endometritis, five being cases of endometritis fungosa, marked benefit was noted under the use of hydrastis. Dr. Wilcox remarks that "in endometritis fungosa, we have in hydrastis a sovereign remedy, even when curetting has failed to arrest the bleeding."

Sixteen cases of subinvolution of the uterus were treated satisfactorily with hydrastis. Five cases of climacteric hæmorrhage were also benefited by the same drug, and the same is said of nine cases of pelvic inflammation and three of congenital antelexion. So enthusiastic is Dr. Wilcox over this remedy, that he is disposed, we think, to underrate the value of local examinations and local medications, which he says, "are entirely unnecessary." He gives the fluid extract of hydrastis in twenty-drop doses three or four times daily in a wineglassful of water.

#### SMALL-POX AMONG RAG-SORTERS.

ABOUT the 18th of February last, three cases of small-pox appeared nearly simultaneously among the employes of the Parsons Paper Company, of Holyoke, Mass., no previous case having existed in the city for many months. Of these three persons one was a man who had never been vaccinated and who worked at the duster, dusting both foreign and domestic rags. This man had a severe form of the disease and died. He lived in a house at some distance from the one occupied by the other persons.

The other cases were in the persons of two girls of Irish nativity, aged respectively twenty-five and sixteen, both of whom were said to have been vaccinated

in infancy, but neither of whom presented typical vaccinal scars. The former had been revaccinated since working in the mill but without success. This one had worked as a rag-sorter for five or six years, the younger one only about eight months. They occupied the same bed in a boarding-house. The younger had been out from the mill on account of slight indisposition for a week before her seizure with small-pox.

The two girls worked on opposite sides of a rag-sorting room, the smaller of two with which the mill was supplied, accommodating thirty-five or forty girls. In this room no rags had for a long time been sorted except (1) new shoe-cuttings from eastern Massachusetts, which had, of course, not been through the duster and which were the scraps of new cotton cloth left from the linings of shoes; (2) foreign "number 1" linens, of two separate marks, the one (one-third of the total amount) being of German origin, and the other (two-thirds of the total amount) being Russian, but both sorts being shipped from Hamburg, the former imported through a Boston house and the latter through a New York firm. It is said that the exporter of the German rags had a quantity of this same mark of rags lying loose in his warehouse for a period of two years before they were baled up. They bore the certificate of the resident United States inspector to having been disinfected by the sulphur process. In passing to and from their work these girls, with all the other workers of that room, were obliged to go through the larger rag-sorting room of the mill in which domestic rags were sorted. In this latter room no cases of small-pox have occurred. The girls both had the disease in a light form and have nearly recovered.

This is the sum and substance of the whole matter as disclosed by an investigation on the part of the State Board of Health. Contagion altogether outside the paper-mill is not excluded, contagion from domestic rags is not excluded. The result of the inquiry is negative. Even the most eager proprietor of a patent disinfecting process would scarcely venture to find therein more than a mild presumptive conclusive proof, the ardent disinfecter should not fore-evidence against the foreign rags. Even were there get the difference in behavior between the virus of small-pox and that of cholera.

#### HOW MANY SUBSCRIBERS READ THE REPORTS OF THE MEDICAL SOCIETIES?

ONE of the newest comers in the field of medical journalism<sup>1</sup> announces that it will print no society reports. It makes the startling statement *based on the experience of the editors* (?) that these reports are not read once in a thousand times! [sic.]

Here is a problem worthy of the medical statistician. How many readers of medical periodicals *never* read the society reports? How many read them *only once* "in a thousand times?" How many *always* read

<sup>1</sup> Therapeutic Gazette, May, 1886, p. 289.

<sup>1</sup> Philadelphia Medical Register, Vol. I, No. 1.

these reports? How many prefer "a weekly *résumé* of all that is going on in the medical world," the society reports being left out?

As we do not believe that the editorial consciousness sums up all experience, we wait for more light.

Meanwhile we have done what we could to obtain it, consulted six representative men of the profession whom we know to be diligent readers of medical journals. All affirm themselves constant readers of the society reports, which they regard as indispensable portions of medical news, and believe the very brevity in which these reports are presented to be a merit. One of these gentlemen expressed the opinion that the larger and more elaborate articles in the medical journals were seldom read, while the society reports were at least always "skimmed over." Another thought that few cared for the *editorials*, (we record this as an impartial journalist), while everybody was interested in knowing what was said and done at the medical meetings.

#### MEDICAL NOTES.

— The Legislature of Maine has repealed the charter of the "Druidic University," on evidence presented of the fraudulent character of the institution. The Eclectic Medical College has also surrendered its charter, thereby escaping an official investigation which would probably have resulted in action similar to that taken in the case of the Druidic College.

— A Western contemporary tells a story illustrating the oft-repeated truth that the surgeon cannot afford to neglect applied mechanics and physics: A young lady had her finger caught in the valve of an air-gun. A physician being called, after careful consideration, decided that the only means of releasing the finger was to amputate it. This being done, the gunsmith arrived, and proceeded to release the amputated finger by boring a hole in the chamber of the gun.

— In regard to the overcrowding of the profession in the Australasian Colonies, the *Australasian Medical Gazette*, January 15th, says: "In New South Wales quacks are rampant, and can practise without the control of any law restricting their doings. A first-class man will, of course, succeed here after he has made a reputation, as he would do almost everywhere; but the prospect is not sufficiently good to justify us in refraining from advising unknown men against rashly rushing out here on mere chance. Appointments are not so easily obtained as formerly; and, for every vacancy, a perfect rush is made by numbers of eligible men — in one instance, lately, upwards of sixty making application.

#### NEW YORK.

— On March 2d, the sum of \$53,050, which was raised by the annual collection of the Hospital Saturday and Sunday Association this season, was distributed to the various hospitals belonging to the Association.

— The twelfth annual commencement of the American Veterinary College was held at Chickering Hall, on the evening of March 4th. The diplomas were presented by Prof. F. D. Weisse, and the prizes by Prof. C. A. Doremus. Frederick R. Coudert, Esq., made the address to the graduating class, which numbered forty-four.

— The twenty-eighth annual commencement of the Long Island College Hospital, was held at the Brooklyn Academy of Medicine, on the 1st of March; when degrees were conferred upon thirty graduates, by Dr. Joseph C. Hutchinson, who has been elected President of the Collegiate Department in place of the late Dr. Dudley. The seventh annual dinner of the Alumni Association of the college was held February 28th, and was attended by the Mayor of Brooklyn.

— A Kings County Association, similar to the New York County Medical Association, and in affiliation with the State Association, has been organized by the Fellows of the latter residing in Brooklyn, with the following officers for the first year: President, Dr. E. R. Squibb; Vice-President, Dr. Avery Segur; Recording Secretary, Dr. R. M. Wyckoff; Treasurer, Dr. J. R. Vanderveer. The new association is to meet once a month in Remsen Hall, and the social element will be made a special feature of its reunions.

#### Miscellany.

##### AUTOPSY OF PROFESSOR SCHROEDER.

THE autopsy of Schroeder, the details of which were announced by Virchow to the Berlin Medical Society, showed that the eminent gynecologist died of abscess of the cerebrum. This abscess was encysted; was situated at the posterior part of the foramen; impinged on the white substance of the occipital lobe, and extended into the right lateral ventricle, which cavity was also the seat of a fibrino-purulent inflammation. Schroeder had been suffering from a violent ophthalmia, from infection by a suppurating wound, but the cause of the cerebral abscess is not apparent.

Professor Schroeder was born September 11, 1838. He was Professor at Erlangen since 1868; his "Treatise on Obstetrics," which went through four editions in as many years, first appeared in 1870. He is best known in this country by this work, and his "Manual of Diseases of the Female Sexual Organs," which forms Volume X of "Ziemssen's Cyclopædia."

##### THE PAY OF MEDICAL OFFICERS IN THE ARMY AND NAVY.

THE *Medical News* gives the following facts regarding the compensation in these two branches of the public service. The pay of the Assistant Surgeon in the Navy, for the first five years after his appointment, is, per annum, when at sea, \$1,700; when on shore duty, \$1,400; when on leave, or waiting orders,

\$1,000. After five years' service, his pay becomes, at sea, \$1,900; on shore duty, \$1,600; and when waiting orders, \$1,200. There seems to be no good reason for the difference in pay for sea and shore duty.

The pay of the Assistant Surgeon in the Army, for the first five years after his appointment, is, per annum, \$1,600, and, after five years, \$2,200. For the first ten years of service, or thereabouts, the pay of the Army medical officer is somewhat greater than that of the Navy medical officer. But promotion is more rapid in the Navy than in the Army, owing to the fact that the Navy has more officers in the higher grades. Thus, of 180 medical officers in the Navy, there are 15 with the rank of Colonel, and 15 with rank of Lieutenant-Colonel; while, of 192 medical officers in the Army, there are 5 Colonels and 10 Lieutenant Colonels. The result of this is that while in the Army it requires about twenty years' service to reach the rank of Major and full Surgeon, in the Navy it requires a little less than fifteen years to attain this grade. Taking it altogether, there is very little difference in the pecuniary emoluments of the two services.

#### OLFACTORY ACUTENESS.

An interesting contribution was recently made by Messrs. Nicholls and Bailey to *Nature*, giving the results of experiments upon the relative acuteness of the sense of smell in individuals. A series of solutions of oil of cloves, nitrite of amyl, extract of garlic, bromine, and prussic acid were prepared by successive dilutions with water until the limit of perception was reached, and then the solutions were placed indiscriminately and submitted to a number of persons of both sexes to classify them properly by the sense of smell. The results showed that on the average the sense of smell was much more delicate in the males tested than in the females; but the degrees of keenness ranged widely as between individuals. Thus three male observers were able to detect one part of prussic acid in 2,000,000 parts of water, though its presence was not revealed by a chemical test; but others, of both sexes, could not detect prussic acid in solutions of almost overpowering strength. The following figures give the average limit of delicacy of perception: Cloves — Males, 1 in 88,128; females, 1 in 50,667. Nitrite of amyl — Males, 1 in 783,870; females, 1 in 311,330. Extract of garlic — Males, 1 in 57,927; females, 1 in 43,900. Bromine — Males, 1 in 49,254; females, 1 in 16,244. Prussic acid — Males, 1 in 112,000; females, 1 in 18,000. — *Medical Press and Circular*.

#### Correspondence.

##### CONTRACTED FINGERS.

BROOKLINE, March 1, 1887.

MR. EDITOR.—In connection with Dr. Homans' article on "Contracted Fingers," in the issue of the JOURNAL of February 24th, a case lately under my observation may be of interest in respect to its etiology. It is that of a tailor, who, when married, in 1853, placed a plain gold wedding ring on the little finger of his left hand. He was then of slight build but soon grew stouter and the ring, which fitted his finger easily before, became quite tight, although it caused him no inconvenience. About seven or eight

years ago he suddenly felt a flash, as he expressed it, like lightning running down his left arm, from the shoulder to the finger; this happened again in about a week, and he then had the ring cut off. From that time his finger began slowly contracting and in two years its tip had nearly touched the palm of his hand. It has been about stationary since then. The little finger is the only one at all contracted. He is sure that it was the tight ring, which he wore for a number of years, that caused the contraction. He still works at his trade with but little inconvenience from the trouble. Very truly yours,

BENJ. S. BLANCHARD, M.D.

##### THOMASVILLE, GEORGIA, AS A WINTER RESORT.

A VALUED contributor writes us from the Mitchell House, Thomasville, Georgia, under date of February, as follows:

I have written you, in former years of the wonders of this place, in the way of perfect drainage, entire salubrity and absence of any bad endemic influence. It is infinitely preferable to any place in Florida, since we have many pleasantly cool days all through the winter, and are free from the malarious misery of the St. John's Valley, for which a visitor is furnished with free tickets the whole winter through.

Another great advantage over the so-called "Land of Flowers" is the unlimited area over which one may ride, drive or walk. Last week, after a long, hard, drenching rain of five or six hours, the sun shone out brilliantly, about noon. Wearing our every-day thin walking shoes we went out for a long stroll. We came in with our feet as free from mud or wet as if we had walked on the *trottoir* of Beacon Street, in May.

To-day, in taking our long ante-meridian stroll, on the home-stretch I was obliged to take off my coat and walk in my shirt-sleeves. I did not take cold, for the song of the mocking-bird so soothed and satisfied the soul that a chill was an impossibility.

As for equestrian life, it is to be found in all perfection. The saddle-horses are of the best and are not dear to the rider. Within a circle, the radius of which is five miles having its centre in my *salon*, there are one hundred miles of excellent roads for driving. To the angler and the sportsman Thomas County is paradise. Within sight of my bedroom window I have made a bag of ten quails and eleven snipes. One can do it now, if permission be given by his Honor the Mayor, my great friend and crony, who lets me shoot anywhere within the city limits.

One more recommendation. An excellent doctor (Thomas S. Hopkins, graduate forty years ago of the University of Pennsylvania) is the *Æsculapius* of the place. He is one of those of our guild in *his partibus* who have kept up with medical progress.

Board, at this sumptuous hotel is \$4 per day, to transient people. The town is filled with good boarding-houses, the keepers of which ask from ten to fifteen dollars per week. A Pullman will soon bring people from Boston or New York to our station, without change, and for about \$30 per ticket.

I wish more northern doctors knew what I know from a series of years of this wonderful corner of the vineyard! I have just bought me a ranch of some 1,600 acres, on account of the excellent shooting and fishing obtainable on it. What would you Bostonians have said, had you seen us lying on my big wagon robe, *à fresco*, at noon, whilst taking our bit of luncheon, the while our horses and doggies were getting their second wind for the afternoon shoot?

On the bill of fare I enclose, the dishes were as good as those you and I used to get in Paris "in the days when we were young." It seems more like a miracle than an ordinary fact to find such an ideal hotel as this.

Therefore, when you get tired of snow and ice and han-

ners with the cold device, come to us and see what a wonderful country it is that we Americans possess. To me it is far preferable to California.

# THE SPINAL CORD, IN HEALTH AND DISEASE, AT THE REGION OF THE FOURTH AND FIFTH DORSAL VERTEBRÆ.

BELFAST, IRELAND, 5 College Sq., North,  
January 21, 1887.

MR. EDITOR.—When I published in the *Lancet* of July 12, 1884, an abstract of my views "On the spinal cord, in health and disease, at the region of the fourth and fifth dorsal vertebræ," and followed this paper by a relation of clinical results in accordance with its teaching, on the following December 6th, I felt assured that in America, where neurological science has attained to such a prominent position, my novel proposition would, sooner or later, attract the notice of thoughtful men, of journalists, and of physiologists, and I have not been disappointed.

Among others, the *New York Journal of Nervous and Mental Disease*, of January, 1885, and your *JOURNAL* of October 14, 1886, through its learned contributor, Dr. Morton Prince, have introduced the subject to their respective readers. With your permission I am desirous of dealing in your pages with the comments of the latter eminent physician; as to the style or manner of Dr. Prince's stricture I have nothing to complain. He appears to be a sincere searcher after physiological truth; when he could honestly agree with my teaching, he did so, very candidly; when he could not succeed to the same extent in evolving the latent phenomena of spinal hyperæsthesia, he did not suggest, that, therefore, they had no existence. I trust that I shall be able to convince him, that, although he could not always demonstrate the presence of spinal tenderness in the limited area referred to, yet, that in every case it was substantially there, and that if he pursue the subject in the same judicious manner in which he has begun, he will, day by day, be rewarded by an increasing percentage of positive results, till with me he shall attain the maximum of cent. per cent.

Applying myself, in the first instance, to the constant existence in the sound, equally with the unhealthy, of a sensitive region in the cord limited to the space covered by the spinous processes of the fourth and fifth dorsal vertebræ, and the doctor's inability to detect the phenomenon in every case, his failure was evidently due to defects, objective and subjective, in the mode of examination. Were the doctor, for the first time, presented with that little wooden cylinder invented by Lenæce, and told of its wondrous power, through mediate auscultation, of discovering and discriminating heart and lung diseases, he would not surely condemn the instrument as a plaything because it did not at once reveal to his unpractised ear the various *râles* and *bruits* with whose discovery it was associated. In like manner, although the subject of his recent experiments did not respond to the taps of his forefinger, as they most assuredly would have done to the knuckle of my middle finger, the fault did not lie in the test, but in the want of familiarity in its application.

In fact it frequently occurs, both in the delicate and the robust, that on the first trial the subject declares that he feels no difference whatever when percussed over the fourth or the remaining eleven dorsal vertebræ, and, were the experimenter satisfied with this assurance, all further inquiry would cease. Brown-Séquard<sup>1</sup> refers to this peculiarity, and says: "Its existence, however, might not be found out, if questions were merely asked, or a cursory examination were made, as the symptoms may be slight and localized in one vertebra, and the patient may not be aware of their presence." Further on, same page, he continues: "It is well, when we have to deal with hysterical or timid patients, to judge of the degree of tenderness more from the sudden and involuntary movement of the

spine, when we press on it, than from the patient's statements as regards the degree of local or referred pains felt. The amount of blushing of the face when a tender spine is pressed upon is also a means of appreciating the degree of tenderness, especially when the affected part is in the lower third of the cervical region, or the upper third of the dorsal region."

So much for subjective consciousness of hyperæsthetic phenomena. My mode of procedure, especially in healthy subjects, is as follows: having bared the back, from the nape of the neck to the waist, I request that the arms be folded across the chest so as to put the integuments covering the spinous processes upon the stretch; this is especially necessary in the case of fatty subjects. I then tap smartly, not heavily, with the knuckle of my middle finger over the spinous processes from the first cervical to the last dorsal; the vertebra prominens, though the least protected, never exhibits any signs of uneasiness; I expect, when arriving at the fourth and fifth dorsal, a response, and an involuntary twitching of the integument, but, if the patient, on passing over the remaining dorsals, declares that he feels no inordinate pain over any of the twelve, I say, *I know better than you*, I shall again go over the back, pay more attention, and when I reach a tender point speak at once; when I, for the second time arrive, at the sensitive fourth and fifth, he at once complains of pain, "Oh, yes, that will do; I cannot bear that"; however, to make matters more apparent, I generally percuss the spine again in both regions; when I am met with a protest against further procedure, as the pain at the spot referred to becomes too much for his patience. He likens the pain often to that of neuralgia, and I have been assured in several instances that the uneasiness has continued for one or two days after the date of examination.

Occasionally, as a preliminary, I pass a finger on either side of the spinous processes of the dorsal vertebræ, leaving a red streak on each side, just over the transverse processes or the neurotic arches of the vertebræ; after this procedure the response over the region in question is more ready and complete, and I prefer the knuckle of the middle finger in percussing, as the impact there is more equable and sure.

It was not possible in my original communication to the *Lancet* to enter into these details; my idea was to put forward the leading principles, leaving circumstantial directions for future occasions.

While Dr. Prince's comments on the therapeutical value of my treatment were on the whole favorable, my respected critic was, unintentionally I am sure, unjust to me; for, while giving the remedy credit for some remarkable cures in various cases of neurotic disorder, he enumerates others of that class in which it failed to cure—cases outside the list which I have published and in which I never recommend its use, and although I added the words, "and other neuroses," I did not mean to attest its efficacy in *all* other neuroses, especially those of an organic nature; for instance, neurasthenia, in which I had especially recommended deviations from the region of the medulla oblongata in the neck, or in any paralysis except facial, in which it was very successful; I certainly never suggested its use in tabes, progressive muscular atrophy, rheumatism or tobacco neurosis. In chorea I do not always succeed by counter-irritation over the dorsal spines, and I declared my failure in one of the cases published, having to supplement the treatment by dry cupping. It is evident that failures in these special disorders does not affect the integrity of my general statements.

And although Dr. Prince was more successful in discovering the special dorsal tenderness in cases of disease, yet, he affirms, that he also found the symptoms in other vertebræ in the absence of pain in the fourth and fifth; these were possibly cases of reflected or transmitted pains from congestive or follicular disease of the stomach or intestines or other abdominal disease; as pathologists recognize that the healthy condition of the spinal nerves is often depen-

<sup>1</sup> Spinal Irritation, Quain's Dictionary, page 1506.

<sup>2</sup> The Medulla Oblongata in its Relations with Sexual Disease. Practitioner, July, 1884.

dent on the integrity of the viscera supplied by them. General tenderness of the spine was noted, he says, in four cases. These were most likely cases of general rachialgia, in such cases pain produced by pressure on one spinous process extends, according to Brown-Sequard, to the whole vertebral column.<sup>2</sup>

Finally, Dr. Prince has recorded a number of "strikingly successful cases" due to my plan of treatment, and referred to others such as the "Vomiting of Pregnancy," in which it was "eminently successful;" he has also given the particulars of others of an incurable nature, in which great relief from pain was experienced; the results of his experiments, he says, "seem to aid in giving the proper value

<sup>2</sup> Article on Spinal Irritation, as quoted above, Quain's Dictionary of Medicine.

to spinal tenderness as a symptom, as well as to a therapeutic procedure which, in suitable cases, must prove of unquestionable utility;" and he concludes by stating "decided and beneficial effects may often be obtained by blistering over the fourth and fifth dorsal vertebra in various neuroses."

I have not any doubt that Dr. Prince's commentary read in the light of this explanation, will have the effect of engaging the attention of many of my transatlantic brethren, and of encouraging further experiment on the lines laid down in my original monograph; at any rate I must feel indebted to Dr. Prince for his well-balanced and highly judicial pronouncement on my little brochure.

ALEXANDER HARRIN, M.D., F.R.C.S., England,  
Consulting Physician Mater Infirmorum Hospital, Belfast.

# REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 26, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Typhoid Fever.	Diph. & Croup.	Measles.
New York . . . . .	1,481,920	679	281	16.20	20.40	.60	7.05	3.60
Philadelphia . . . . .	993,801	454	146	11.88	11.00	2.20	4.18	2.64
Brooklyn . . . . .	743,108	281	118	16.56	29.09	—	7.56	—
Chicago . . . . .	743,108	—	—	—	—	—	—	—
St. Louis . . . . .	420,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	153	43	9.10	11.05	2.60	3.25	1.40
Boston . . . . .	400,000	157	59	6.36	16.64	—	5.76	.64
New Orleans . . . . .	242,730	119	5	12.83	10.26	—	4.28	—
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
District of Columbia . . . . .	210,000	84	26	6.96	3.48	—	3.48	—
Pittsburgh . . . . .	210,000	97	45	23.69	19.57	1.03	8.24	11.33
Cleveland . . . . .	210,000	75	35	15.96	18.62	2.66	2.66	3.99
Milwaukee . . . . .	170,000	61	27	4.92	9.84	—	1.92	—
Providence . . . . .	121,000	42	15	14.28	26.18	—	2.36	7.14
Richmond . . . . .	100,000	33	12	12.12	9.09	3.03	6.06	—
New Haven . . . . .	80,000	27	8	14.80	1.10	—	7.40	—
Nashville . . . . .	65,000	—	—	—	—	—	—	—
Charleston . . . . .	60,145	33	10	6.06	15.15	—	6.06	—
Portland . . . . .	40,000	17	6	—	5.88	—	—	—
Worcester . . . . .	68,383	20	11	10.00	35.00	—	10.00	—
Lowell . . . . .	64,051	37	10	32.40	18.90	—	2.70	13.50
Cambridge . . . . .	59,660	24	9	12.48	12.48	—	8.32	4.16
Fall River . . . . .	56,863	22	9	4.55	4.55	—	—	—
Lynn . . . . .	45,861	15	7	6.66	13.33	6.66	—	—
Lawrence . . . . .	38,825	21	4	14.28	28.56	9.52	—	—
Springfield . . . . .	37,577	8	3	—	37.50	—	—	—
New Bedford . . . . .	33,363	17	2	5.88	11.76	5.88	—	—
Somerville . . . . .	29,922	—	—	—	—	—	—	—
Salem . . . . .	28,084	9	2	—	—	—	—	—
Holyoke . . . . .	27,894	—	—	—	—	—	—	—
Chelsea . . . . .	25,709	4	1	25.00	—	—	25.00	—
Taunton . . . . .	23,674	6	1	—	—	—	—	—
Haverhill . . . . .	21,795	15	5	13.33	33.33	—	—	—
Gloucester . . . . .	21,713	6	3	33.33	16.66	—	33.33	—
Brookton . . . . .	20,783	10	2	—	—	—	—	—
Newton . . . . .	19,759	5	0	20.00	20.00	20.00	—	—
Malden . . . . .	16,407	4	2	—	—	—	—	—
Fitchburg . . . . .	15,375	8	0	12.50	—	—	—	—
Waltham . . . . .	14,609	6	1	—	33.33	—	—	—
Newburyport . . . . .	13,716	4	0	25.00	—	25.00	—	—
Norhampton . . . . .	12,896	5	2	—	—	—	—	—

Deaths reported 2,459: under five years of age 935; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 328, acute lung diseases 405, consumption 358, diphtheria and croup 139, measles 65, typhoid fever 31, scarlet fever 20, malarial fevers 20, diarrheal diseases 18, cerebro-spinal meningitis 13, whooping-cough six, erysipelas four, small-pox three, puerperal fever one. From scarlet fever, New York 14, Brooklyn seven, Philadelphia six, Pittsburgh two, Baltimore, Cleveland, and Fall River one each. From malarial fever, New York nine, New Orleans six, District of Columbia two, Philadelphia, Brooklyn and Richmond one each. From diarrheal diseases, New York five, New Orleans four, Philadelphia, Brooklyn and Cleveland two each, District of Columbia, Pittsfield and Providence, one each. From cerebro-spinal meningitis, New York, Philadelphia, Pittsburgh and Haverhill two each, Cleveland, Providence, New Haven, Lowell and Fitchburg one each. From whooping-cough, Brooklyn two, New York, Baltimore, Richmond, and Lawrence one each. From erysipelas, Philadelphia two, Brooklyn and Cleveland one each. From small-pox, New York two, Brooklyn one. From puerperal fever Baltimore one.

Cases reported in Boston: measles 62, scarlet fever 25, diphtheria 23, and typhoid fever 10. Twenty-three cases of measles were reported in Newport, R. I., for the month of February but no deaths.

In the 22 cities and greater towns of Massachusetts, with a population of 1,017,956 (population of the State 1,941,465) the total death-rate for the week was 20.68 against 20.52 and 20.89 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,069, for the week ending February 12th, the death-rate was 19.5. Deaths reported 3,453: infants under one year of age 811; acute diseases of the respiratory organs (London), 373; whooping-cough 95, measles 77, scarlet fever 61, diphtheria 43, diarrhoea 32, fever 31.

The death-rates ranged from 14.9 in Nottingham to 30.1 in Huddersfield; Birkenhead 18.7; Birmingham 18.9; Derby 16.1; Halifax 18.4; Hull 20.9; Leeds 16.9; Leicester 15.3; Liverpool 26.9; London 17.6; Manchester 28.8; Newcastle-on-Tyne 22.6; Portsmouth 21.6; Sheffield 20.5.

In Edinburgh 21.6; Glasgow 24.8; Dublin 27.3.

The meteorological record for the week ending February 26, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Feb. 26, 1887.	Barom- eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 20	30.218	32.0	36.0	27.0	57.0	36.0	48.0	47.0	W.	N.	N.	10	8	4	C.	O.	O.	—	—
Monday, ... 21	30.423	29.0	32.0	26.0	60.0	91.0	74.0	85.0	N.	N.E.	S.	12	9	5	N.	O.	O.	—	—
Tuesday, ... 22	30.288	33.0	34.0	30.0	79.0	93.0	89.0	87.0	E.	S.E.	N.W.	12	3	10	O.	N.	P.	—	—
Wednesday, ... 23	30.429	31.0	36.0	25.0	72.0	56.0	61.0	61.0	N.W.	S.E.	S.W.	12	6	9	C.	F.	O.	—	—
Thursday, ... 24	30.636	37.0	45.0	30.0	100.0	52.0	47.0	66.0	S.E.	W.	W.	16	34	34	N.	C.	C.	—	—
Friday, ... 25	30.275	19.0	33.0	14.0	52.0	31.0	42.0	42.0	N.W.	N.W.	N.W.	22	32	10	C.	C.	C.	—	—
Saturday, ... 26	30.113	24.0	34.0	13.0	55.0	87.0	100.0	81.0	N.W.	S.E.	E.	4	12	17	O.	N.	R.	27	.79
Mean, the Week.	30.185	29.3	36.0	23.0				67.0											

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., sleet.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 26, 1887, TO MARCH 4, 1887.

GREENLEAF, CHAS. R., major and surgeon. Ordered for duty in the office of the Surgeon General of the Army. S. O. 41, A. G. O., February 18, 1887.

HUNTINGTON, D. L., major and surgeon. Will be relieved from duty in the office of the Surgeon General, to take effect March 1, 1887. S. O. 41, A. G. O., February 18, 1887.

HUNTINGTON, DAVID L., major and surgeon. Ordered for duty at San Diego Barracks, Cal., and granted leave of absence for one month from March 1, 1887. S. O. 45, A. G. O., February 25, 1887.

WHITE, ROBERT H., captain and assistant surgeon. On being relieved by Major Huntington, to proceed to Angel Island, Cal., and report to commanding officer for duty at that post. S. O. 45, A. G. O., February 25, 1887.

TESSON, LOUIS S., captain and assistant surgeon. Ordered for duty as attending surgeon at headquarters, Division of the Missouri and Examiner of Recruits at Chicago, Ill. S. O. 44, A. G. O., February 24, 1887.

GRAY, WM. W., captain and assistant surgeon. Leave of absence for seven days is extended twenty-three days. S. G. 13, Department of Dakota, February 21, 1887.

MASON, CHAS. F., first lieutenant and assistant surgeon. Resignation accepted by the President, to take effect, March 23, 1887. S. O. 44, A. G. O., February 24, 1887.

#### OBITUARY.

##### LUTHER PARKS, M.D.

Luther Parks, A.M., M.D., whose death was previously announced, was born in Boston, November 4, 1825, and graduated at Harvard College in 1843, taking high rank in a class which included many men who have become distinguished.

He took his degree of M.D. in 1847, and in the same year went to Ireland as surgeon of the United States Sloop of War "Jamestown," which was sent, loaded with provisions, to relieve the starving Irish people. He was there made a Fellow of the Royal College of Surgeons of Ireland. After his return he married Miss Julia Dale, and established himself at the south end of Boston. In his active practice there of eleven years, during a portion of which he served as one of the District Physicians of the Boston Dispensary, he was notable for conscientious fidelity and kindness toward his patients, and for his skill as an obstetrician, which he took pains to perfect, by practical work at the Rotunda Lying-in Hospital at Dublin, during a second visit to Europe in 1852. After the death of Mrs. Parks in 1859, he again went abroad, everywhere interesting himself in what was being done in the profession.

Dr. Parks married in 1861 Miss Catharine Burroughs, and, at the request of his father who was advancing in years, he removed to Chestnut Street and retired from active practice. During the late war, at the solicitation of Governor Andrew, who was his personal friend, he went to the peninsula of Yorktown as a volunteer surgeon.

After his father's death, Dr. Parks again went in 1872 to Europe, where he continued to reside until his death, at Pau, November 19, 1886, at the age of sixty-three. His widow, his son, Dr. Edward L. Parks, of Boston, and two married daughters survive him.

Dr. Parks was for some years one of the physicians of the

Boston Lying-in Hospital, and was associated with Dr. S. L. Abbot, as editor of the *Medical and Surgical Journal*. At the Annual Dinner of the Massachusetts Medical Society in 1871 he presided as Anniversary Chairman. As Chairman of a Committee of that Society he carefully investigated and reported upon an epidemic of cerebro-spinal meningitis in Massachusetts. Although absent, and retired from practice, he retained to the end of his life his Fellowship in the Society, and his interest in its work for the promotion of medical science. As an exemplar of scrupulous fidelity, energy, and courage in the discharge of duty as well as for his loyalty and courtesy, Dr. Parks will not be forgotten by his professional brethren.

##### DR. LEWIS FISHER

Dr. Lewis Fisher, who practised successfully in New York for many years, died February 28th, at Jacksonville, Fla. He was born in 1829, in Mobile, Ala., whither his family had gone from Philadelphia. He was graduated from the Medical Department of the University of the City of New York in 1861, and soon afterward entered the medical service of the army. For a considerable portion of the late war he was in charge of the hospital at Chester, Pa., and at the close of the war he settled in Morristown, New Jersey, for a time. While living in New York he spent a number of summers at New London, Ct., where he had a lucrative practice. For some time previous to his death he had been in failing health, and it was on account of this that he went to Florida. His brother is a practising physician in Hoboken.

##### SOCIETY NOTICE.

SUFFOLK DISTRICT MEDICAL SOCIETY. OBSTETRIC AND GYNÆCOLOGICAL SECTION.—There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, March 16th, at eight o'clock. Communications: Dr. John Homans, 2d, "Supplementary Ovaries." Dr. W. H. Fales will exhibit a specimen and make some remarks upon a very interesting case of Lithopædion, which the patient carried for thirty years, finally dying of cancer. Refreshments after the meeting.

JAMES R. CHADWICK, M.D., Chairman.  
ROBERT B. DIXON, M.D., Secretary.

##### BOOKS AND PAMPHLETS RECEIVED.

Annual Report of the Board of Managers of the New York State Reformatory at Elmira, for the Year ending September 30, 1886. 1887.

Massage as a Mode of Treatment. By William Murrell, M.D., F.R.C.P. Second Edition. Philadelphia: P. Blakiston, Son & Co. 1887.

The Antiseptic Treatment of Summer Diarrhoea. By L. Emmet Holt, A.M., M.D., Attending Physician to the New York Infant Asylum. 1887. (Reprint.)

Two Unique Cases of Insanity: possibly Epileptic. By Theo. W. Fisher, M.D., Superintendent of the Boston Lunatic Hospital, Boston, Mass. 1887. (Reprint.)

Handbook of Materia Medica, Pharmacy and Therapeutics, including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Extemporaneous Pharmacy and Minute Directions for Prescription Writing. By Samuel O. L. Potter, M.A., M.D., Professor of the Theory and Practice of Medicine in the Cooper Medical College of San Francisco, etc. Philadelphia: P. Blakiston, Son & Co. 1887.

## Original Articles.

## NOTES ON THE DIGESTION OF "LIVING" TISSUES.

BY JOSEPH W. WARREN, M.D.,

Assistant in Physiology in the Medical School of Harvard University.

In a recent number of the *Biologisches Centralblatt*, Frenzel<sup>1</sup> has again called attention to this enigma of the digestive process, which, ever since John Hunter's day, has awakened much interesting and ingenious speculation, but which is hardly nearer a solution now than then. The question is: Why do organisms which manifest such power of digesting and assimilating the material they require, leave quite intact those organs or tissues where these processes go on so actively? Why does the stomach digest various albuminous substances so readily, and yet fail to attack its own walls, containing substantially the same material? Why do the intestines, with their much more varied power of digestive action, remain undisturbed and uninjured by this activity? Why does the pancreas secrete at least three vigorous digestive ferments, and yet work on unaffected by each and all of them? The same question may be urged concerning the various glands of many lower organisms which have a well-defined digestive tract; and the enigma only grows in difficulty and interest as we consider those forms of life where such a differentiation of organs does not appear to be present, and where processes at least analogous to the digestion of higher animals are carried on.

This immunity, in its completeness, is found only so long as the organism is alive. When death has occurred, a certain amount of post-mortal "self-digestion" is observable. The human stomach, for example, is not infrequently found with its walls so much softened and changed, that such a proteolytic action of its own secretions is supposed to have taken place. It has but rarely been observed that such changes are brought about before death. One of the few apparently authentic cases of ante-mortant self-digestion of the living human stomach was reported, a number of years ago, by Mayer;<sup>2</sup> and is given in detail, by Leube, in "Ziemssen's Cyclopadia."<sup>3</sup> It has been considered probable that, in ulcerations of the stomach, as well as in the course of cancerous changes of that organ, a certain amount of localized digestion of the gastric walls occurs, and this view has much in its favor.

Frenzel points out that a similar post-mortant transformation is observable in the entire animal kingdom. Certain sections of the intestines of insects are found thus self-digested; and the like change may be noticed in ferment-producing glands (the so-called "liver") of crustaceans and mollusks. He also considers that the rapid disintegration of many amebæ and infusoria is due to self-digestion by the ferments they produce while living. Ordinarily these rapid changes are attributed to the activity of the bacteria of putrefaction; but Frenzel reports an observation which seems to lessen the necessity of such an assumption, or, at least, suggest caution in its universal application. He studied a worm which lives in strong vinegar (*anguilla aceti*), where, as he says, he could find no microbes. This worm, after death, showed a rapid dis-

solution of its tissues; and Frenzel thinks that the secretions of its digestive organs must have played an important part in the process. It should not be forgotten, in this connection, that, so far as I know, it has not been demonstrated that these post-mortant changes are true digestions, and not merely transformations into soluble bodies, without the formation of peptones. This distinction, as I think we shall see, is not unimportant.

The explanations that have been given concerning the protection which living tissues appear to possess have varied in an entertaining and instructive manner. It would take too much space to point out all the different phases through which the discussion has passed; nor would it be very profitable to examine all the theories proposed concerning the conditions which favor the post-mortant softening of the stomach itself. The literature may be found in sufficient fulness in Leube's article, already alluded to, and in Wiederhofer's chapter on "Gastromalacia."<sup>4</sup> It will be enough for my present purpose to indicate the general principles which have been adopted, at various times, as the basis for an explanation.

It has been urged that the stomach preserves its integrity, first, on account of its life — by some "vitality"; or, on account of the protection afforded by its epithelium; or, again, because so much mucus is present as to enwrap the food, or cover the surface of the organ; or, finally, because the acid is neutralized by the alkaline blood, the exceeding vascularity of the stomach in active digestion rendering the acid harmless so soon as it reaches the tissues of the gastric wall. Each of these explanations, alone or in various combinations, has found its defenders; and yet no one of them, nor all of them together, can be considered satisfactory.

The supposititious protection afforded by the mucus<sup>5</sup> has the least claim upon our attention. This, if it worked by any alkalinity it possessed, could only hinder the proteolytic action by weakening the acid, whose presence is indispensable. If the protection be sought in the coating which is given to the stomach or to its contents, the explanation must at once appear to us to be unreasonable. How could any such coating be assumed to be permeable for acid and pepsine in one direction (that is, towards the mass to be digested), and to permit the passage of digested or dissolved material in the opposite direction (towards the gastric walls) and yet not allow the acid-pepsine mixture to pass with equal freedom.

Should we confine this explanation to the small intestine, with its alkaline digestion, as Claude Bernard seems to have done, a still further and more weighty objection may be found in the fact noted by Frenzel, that insects have no such layer of mucus in their intestinal tract, and yet no self-digestion occurs there during life.

The protection attributed to the epithelium, whether it be thought to lie in its own resistance to digestive changes, or in its rapid renewal, would appear also to be insufficient. It has been found that the epithelium may be quite extensively injured or removed,<sup>6</sup> and no digestion of the underlying tissue takes place. The

<sup>1</sup> Gerhardt, *Handbuch d. Kinderkrankheiten*, IV, 2, 11, p. 425.

<sup>2</sup> Cf. Harley, "Contributions to our Knowledge of Digestion," *British and Foreign Medical-Chirurgical Review*, Vol. XXV, 1867, pp. 206-214.

<sup>3</sup> Pavy, *Medical Times and Gazette*, 1872, Vol. II, p. 276. This is an abstract of a paper read before the British Association. See, also, Harley, loc. cit.

<sup>4</sup> Verdauung lebenden Gewebes und Selbstverdauung. Von Dr. Johannes Frenzel, *Biol. Centralblatt*, VI., 681.

<sup>5</sup> Deutsches Archiv. für klinische Medizin, 1871.

<sup>6</sup> Vol. VII, p. 261, of the *American Edition*.

reports of cases where sounds and stomach-pumps have produced lesions of the epithelium, appear to be confirmatory of the view that the protection of the stomach is not to be sought in this coating, or, at least, not alone therein.

The alkalinity of the blood and the lymph, as a possible defence against the attack of the gastric juices, would, at the first glance, appear to be much more acceptable. The localized self-digestion of ulcerations, or in cancer, might be attributed to altered blood-flow, and consequent lessening of alkalinity. In the marked case of gastromalacia given by Leube and Mayer, and already quoted above, the individual had extensive cicatricial contractions at the pylorus, as well as at the cardia; and these would probably materially alter the blood-supply.

In this connection, however, we may not pass over in silence an observation made, several years ago, by Edinger.<sup>7</sup> He injected a solution of alizarin into the bloodvessels, and inferred, from the color-changes, that the mucous membrane of the stomach has an acid reaction throughout a considerable portion of its substance when active digestion is going on. Unfortunately, his method is not delicate enough to permit a microscopical examination of the tissues.

Even if we accept fully the view that the alkalinity and vascularity of the gastric walls preserve them from digestive destruction, we advance but a little towards a solution of our larger problem. In the small intestines we find a no less active digestive process, and a much more varied one, which is carried on in an alkaline menstruum. If the alkaline blood protect the stomach, what is the power which guards the walls of the smaller intestines?

The oldest explanation is that commonly attributed to John Hunter. This finds the immunity of the digestive apparatus in its "life"—in its vitality. Modern biology cares so little for any "vital principle," that such a view seems almost absurd, since it merely answers one question by putting another—a method not quite out of fashion. Could we turn backward mentally, and think as did the strong men of old, as readily as we may masquerade in their clothes we should doubtless perceive that in this view John Hunter was fully abreast of his time. We might realize that we are not any too near an answer of our enigma nowadays, although we have turned the question completely round.

It is, perhaps, not without interest to read what Hunter wrote on this point. The original paper, "On the Stomach itself being Digested after Death," was presented to the Royal Society, and read June 18, 1772. It was printed in the sixty-second volume of the "Philosophical Transactions," and reprinted, with slight changes, as an appendix to "Some Observations on Digestion." The paragraphs which state the doctrine are as follows:<sup>8</sup>

"An animal substance, when joined with the living principle, cannot undergo any change in its properties but as an animal; this principle always acting and preserving the substance possessed of it from dissolution, and from being changed according to the natural changes which other substances undergo.

"There are a great many powers in nature which

the living principle does not enable the animal matter, with which it is combined, to resist, viz., the mechanical and most of the strongest chymical solvents. It renders it, however, capable of resisting the powers of fermentation, digestion (and perhaps several others), which are well known to act on this same matter, when deprived of the living principle, and entirely to decompose it." . . .

"Animals, or parts of animals, possessed of the living principle, when taken into the stomach, are not in the least affected by the powers of that viscus so long as the animal principle remains; hence it is that we find animals of various kinds living in the stomach, or even hatched and bred there: yet the moment that any of those lose the living principle, they become subject to the digestive powers of the stomach. If it were possible for a man's hand, for example, to be introduced into the stomach of a living animal, and kept there for some considerable time, it would be found that the dissolvent powers of the stomach could have no effect upon it; but if the same hand were separated from the body, and introduced into the same stomach, we should then find that the stomach could immediately act upon it.

"Indeed, if the first were not the case, the stomach itself ought to have been made of indigestible materials; for were not the living principle capable of preserving animal substances from being acted upon by the process of digestion, the stomach itself would be digested.

"We find, on the contrary, that the stomach, which at one instant, that is, while possessed of the living principle, was capable of resisting the digestive powers which it contained, the next moment, viz., when deprived of the living principle, is itself capable of being digested, not only by the digestive powers of other stomachs, but even by the remains of that power which itself had of digesting other things."

A similar statement, but much more picturesquely put, may be found among his posthumous papers. I quote from page 146, Vol. I, in the edition prepared by Owen.<sup>9</sup>

"The [power of the] containing [organ] may, and does depend on the disposition of the body and mind, not so much on the constitution or strength of the body; for many weak constitutions have vast power of digestion, and others the reverse. Its effects are immediate on dead substances; almost as quick as the effects of an acid on an alkali. Its power depends upon life; for as soon as life is gone, even in the most healthy, this power is lost, excepting what may be going on [at the time of death], which continues for a little time. It depends on a living principle in itself; but that which is to be digested must be dead, or have lost this living principle, or it cannot be dissolved. . . . If it was possible for an animal to live in the stomach of another animal, supposing digestion not to be going on in that stomach, it would then live while digestion was going on; for that animal would not be in the least dissolved, because the living principle in the animal would prevent or counteract the digestive quality of the stomach. If this was not the case then we might readily suppose that even though the animal life was not immediately affected by the digestive power, yet at last it might be destroyed by the external and extreme parts of the animal being

<sup>7</sup> Edinger. Ueber die Reaction der lebendigen Magenschleimhaut. Pflüger's Archiv. f. d. ges. Physiologie XXIX. 217.

<sup>8</sup> I quote from page 151 of the "Observations on Certain Parts of the Animal Economy," by John Hunter. London, 1786.

<sup>9</sup> Essays and Observations on Natural History, Anatomy, Physiology, etc. 2 vols. London 1861.

digested, and so the animal be obliged to die, like a person with a mortification. But that a living animal will not be so dissolved is every day proved by worms, maggots or flies, living in the stomachs of many animals; and if it was a power that could act upon a part that had the living principle, as well as an acid can, then the stomach itself would certainly be dissolved. If one could conceive a man to put his hand into the stomach of a lion, and hold it there without hindering the digestive powers, the hand would not in the least be digested; and if the hand of a dead man was put in at the same time, whether separated or not from the body, that hand would be digested while the other would not."

A rather different but no less entertaining view as to the importance of the vital principle in the digestive act, may be read in the note below, although the point before us is not directly involved.<sup>10</sup>

The following extracts from Saumarez' "New System of Physiology," published at London, 1798, also illustrate the point of view taken by many at that time.

Vol. I, p. 15. "It is to the power by the energy of which every living system is protected and preserved from decomposition and decay, and by which the different substances it receives are assimilated and changed, that I attach the idea of Life."

Again, on p. 330, of Vol. I, we read: "And finally that the gastric juice possesses, the power not only of killing living, but of reanimating dead matter, was proved by some experiments made, I believe, by Mr. Hunter and Spallanzani. They thrust pieces of putrid flesh, tied by a string, into the stomach of some dogs; and after leaving it some time in that organ, they withdrew the meat; and found upon examination, that from being offensive it had become sweet, from being putrid it was fresh again. It is not, therefore, sufficient for the food, by the organs of sense to have been selected, by the teeth to have been committed, by the mouth to have been masticated, by the saliva to have been blunted and banded: it is by the active energy of the stomach alone, and the fluid it secretes, that it becomes digested and assimilated, that solid food is reduced to a fluid state, that it becomes killed as it were, and loses its old life, and then is animated anew, receiving from the living power of the gastric, the participation of life from the system to which it is applied." He adds in a foot-note: "That the food we receive must be killed by the stomach before it is vivified afresh is evident, from hence: If it retained its own living power in an eminent degree, it is possible to conceive that it might inoculate with the stomach, instead of being digested by it; and if it retained its living power without inoculating, the nature of that food would be always apparent: we should participate of the quality of the beasts on which we feed, and of the vegetables also." I purposely refrain from extending these quotations by referring to the part which a vital principle, under various names, was playing at this time in the views of the best thinkers on the Continent.

<sup>10</sup> See Fordyce: A treatise on the digestion of food. London, 1791. Page 176. "But in the same manner the action of the powers of the stomach, and other organs of digestion, upon the food, is necessary for those powers which occasion its decomposition and recombination to act, so that, although they are always present in the substances capable of being converted into chyle, yet nevertheless they are not exerted unless they are influenced by the action, or circumstances which they meet with in the organs of digestion of a living animal; so that no chyle ever has been, and most probably never can be produced, excepting in the organs of digestion of a living animal."

It must not be supposed that the unsatisfactoriness of these arguments has only been recently recognized. I will spare the reader quotations which would demonstrate that quite early in the present century the "vital principle" was considered a vague and insufficient explanation of the difficulty. It was not, however, until the second half of the century had begun that an experimental refutation of John Hunter's theory was made — at least so far as it concerns the question now under discussion.

It is only about thirty years ago, the reader will remember, that Claude Bernard<sup>11</sup> found that gastric juice, injected under the skin, digested the subcutaneous tissues. He saw further, that the legs of a living frog inserted in the gastric fistula of a dog, were digested off to a great extent in about three-quarters of an hour, the rest of the frog remaining alive. A similar experiment was made with snakes. These observations were confirmed by Pavy,<sup>12</sup> Harley,<sup>13</sup> and others; they were extended by the partial digestion of the ear of a living rabbit. It thus became evident that the "life" of the animal could have but little to do with the protection of its digestive canal from proteolytic changes. The external and extreme parts did undergo digestion and the animal was not obliged to die, the very thing Hunter said could not happen.

Frenzel suggests that these experiments really only showed a partial solution of the "living tissues" and did not absolutely demonstrate their digestion — that is, their peptonization. He accordingly tried an artificial digestion of "living" tissues and arrived at interesting results. Several years ago I made a number of similar experiments and reached generally the same conclusions as those now printed by Frenzel. I reported my work at a meeting of the Boston Society of the Medical Sciences in the spring of 1883, but published nothing. It seems desirable to note them now as confirming the work of Frenzel and somewhat extending it, and I do so without intending to claim any priority for the method or the results.

Frenzel's experiments were made by fastening a frog on a forked board so that each leg hung in a vessel which contained hydrochloric acid (0.2 per cent.) or acid and pepsine. In the latter case marked changes were soon observable. The skin freed itself in patches and the flesh gradually disappeared especially on the parts where the epidermis was removed. In such places the bone was fully exposed in about an hour and a half. The bloodvessels were also affected; the walls burst, the blood exuded and coagulated, and the coagula were finally dissolved. On examination the liquid in which such a leg hung was found to contain peptone — there had been a genuine digestion. The other leg, hanging in acid alone, is said to have shown no special change save that the outer layers of

<sup>11</sup> In Bostock's Chapter on Digestion, in Todd's Cyclopaedia of Anatomy and Physiology, 1836-39, Vol. II, p. 23, he will find: "With respect, therefore, to the hypothesis of a vital principle, as maintained by Fordyce and many of the modern physiologists, we should say that it is rather a verbal than a real explanation of the phenomena, and that it rather evades the objections than answers them." See also: An Elementary System of Physiology. By John Bostock, Vol. II, (Boston reprint, 1826), p. 409.

<sup>12</sup> Claude Bernard: Leçons de physiologie expérimentale. Paris, 1854-56, Vol. II; Cours du semestre d'été, 1855, pp. 406-9.

<sup>13</sup> An account of Pavy's experiment with the ear of a rabbit, as well as his views concerning the protection afforded by mucus or epithelium, and the importance of the alkalinity of the gastric walls may be found in his "Treatise on the Function of Digestion," London, 1867, p. 74. The reader may also consult Pavy's paper: "On the Immunity enjoyed by the Stomach from being digested by its own Secretion during Life," in the Transactions of the Royal Society for 1863.

<sup>14</sup> Harley, loc. cit., p. 311.

the epidermis were slightly swollen. Where the epidermis had been removed a swelling and softening of the muscles was not observed — nor could such a leg be afterwards digested by pepsin in a neutral solution as would be expected had the muscles imbibed the acid. It should be added that the experiment was carried on at a temperature of 38° C. Frenzel does not say positively that such frogs remained alive, but it is to be inferred from the tone of his article that they did. He also reports that merely moistening an exposed muscle "at a suitable temperature" suffices to bring about an evident digestion. The number of experiments is not given.

My own observations were made on a large number of frogs; altogether about fifty of them participated in perhaps twenty experiments, but some died too early to make their share complete and useful. A detailed account of the methods employed and of the changes perceived may be omitted now, and I will generalize them as much as possible. Originally I only intended to modify Bernard's method for lecture purposes, and the lower legs of the frog hung in test tubes which stood in the water bath whose temperature was fairly constant (38° C). I was thus able to demonstrate that the lower legs could be much softened (or even drop off) and the rest of the frog remain alive — that is to say, the heart was still beating and the muscles of the upper leg responded perfectly to electrical or mechanical stimulation of the nerves. My occupations at the time unfortunately obliged me to leave the experiment unwatched over night. The results which this long exposure to acid alone produced differ from those of Frenzel in that the muscles were often much softened and even dissolved, but this effect was usually not so intense nor so extensive as where the leg was exposed to acid and pepsine. When, however, such solutions were compared, that produced by the aid of pepsine acquired a rose color with soda and cupric sulphate which only gave a purple color where acid alone had been active (Biuret reaction). In other words only the pepsine solution appeared to have really peptonized the muscle. Early in this work it occurred to me that the exposure to so high a temperature could not be a matter of indifference to the tissues. The frog is accustomed ordinarily to surroundings where the thermometer stands hardly ever higher than 15–18° C., and to remove him (or only his legs) suddenly and permanently to a climate where the mercury is always at 38° C., means a change such as would cause us much concern were we to make it ante mortem.<sup>12</sup> I accordingly repeated the experiments at room temperature with substantially the same results. Later, further modifications were introduced to lessen the possibility of disturbing the blood flow and the nutrition of the muscles by the hooks and bands which were needed to support the frog comfortably. Cutting the medulla oblongata as well as section of the sciatic plexus was tried, but the outcome of the experiment was the same and in general accord with Frenzel. I may add that control experiments were always carried on at the same time. Finally I followed a suggestion of Dr. H. P. Bowditch and curarized the animals, which enabled me to place the lower legs in little troughs containing the

digesting solution. In this way it was chiefly the gastrocnemius muscle which was exposed to the liquid, and this was favored by slitting the skin. By this means I was able to reach some very interesting results. It proved to be possible to digest (or at least make translucent and soft) a good portion of the exposed gastrocnemius, while all the rest of the same muscle was uninjured. That is, the undigested portion was firm and red as in health, and still manifested that perfect irritability which belongs to a sound muscle. It is hardly necessary to add that the other muscles of the leg, the heart, in short, all the rest of the frog remained fully alive. This took place too, it must be remembered, at a temperature in no way unfavorable to the animal's existence or comfort. A more instructive form of the digestion of "living" tissues cannot easily be found. On varying the strength of the acid it was seen that solutions ranging from 0.3 per cent. to 0.05 per cent. were positive in their results. No decided effect, however, was produced by a mixture of pepsine with 0.015 per cent. HCl. which was competent to digest boiled fibrin. It thus appears probable that a local digestion of a living muscle may be produced by pepsine and an acid of such strength that the entire amount of acid employed is less than that which the blood might be expected to neutralize. While I cannot maintain that my experiments were sufficiently numerous to settle this point, especially as I did not have this particular question in mind at that time, the notes made as the experiments progressed suggest a conclusion of this character. I purpose examining this point more exactly when I can find time for such work.

I also tried to attack the living muscles in an alkaline menstruum by means of such pancreatic extracts as we then had in the laboratory. The results were either negative or inconclusive, but the ferments at my disposal were not as good as we now have, and I consider this question open for further investigation.

Finally, then, we must admit that we are still far from a satisfactory explanation of the immunity of the various digestive organs with reference to their own ferments while "alive" and the lack of such protection when "dead." It might be suggested that many or all of the ferments come from their glands in a partially inactive condition (in form of a zymogen, as pepsinogen, trypsinogen and so on), but this consideration would have value only for the glands, and is useless for the stomach and intestine. Frenzel suggests, as Krukenberg<sup>13</sup> had already recently done, that the comparative physiology of digestion may be expected to solve our problem. Possibly the solution will prove to be less simple than we expect, and by showing us how exceedingly varied in principle the processes are which we have been accustomed to lump together under a single name as "digestion," also demonstrate that the safety of the "living" structures immediately involved is due to equally varied causes. Of course no one supposes that the tissues actually remain "alive" when the digestion begins. That part which is to be dissolved "dies" either before or during the digestion, but the direct cause which changes the living complex albumin molecule with its vigorous resistance to dissolution into some feebler form making it the victim of any enzyme which may happen to meet it, no man knows with certainty or completeness.

<sup>12</sup> This objection does not seem to have occurred to Frenzel. Pavy, however, may have had it in mind when alluding (loc. cit. p. 74) to "the more powerfully acting stomach of a warm-blooded animal like the dog," as the weak point in Bernard's experiment with "a cold-blooded reptilian animal."

<sup>13</sup> Krukenberg. Die eigenartigen Methoden der Chemischen Physiologie. Heidelberg, 1885, p. 20.

## THE USE OF STROPHANTHUS HISPIDUS IN HEART DISEASE.

BY VINCENT Y. BOWDITCH, M.D.

A LITTLE more than a year ago, Professor Fraser, of Edinburgh, published the results of fifteen years' experience with a drug, till then, all but unknown to the medical profession. The feeling of respect due to such an accurate observer and careful experimenter as Fraser; the experience of several of our New York associates, as well as the comparatively recent facts brought to my notice in our own community, are the reasons of my calling your attention, this evening, to the use of strophanthus in diseases of the heart.

In the *British Medical Journal* of November 14, 1885, one may find the full account of Fraser's experiments; and I will, therefore, only call your attention to a few of the most important characteristics of the drug, hoping thus to induce you to give it a careful trial in your own practice, if you have not already done so.

The plant is indigenous to Africa, and is used by the natives as a poison for arrow-heads. It is of the digitalis group, and has a distinct action upon striped muscular fibre, and also upon the heart; and, in poisonous doses, causes greatly increased and almost continuous cardiac systole, with consequent paralysis of the heart and early cadaveric rigidity.

By a series of experiments patiently carried out over a number of years, both clinically and in the laboratory, Fraser has arrived at the following conclusions:

*First.* That strophanthus has a distinct action, like digitalis, in increasing the force of systole, at the same time diminishing the rapidity of the heart's action, whether by stimulation of the organ, or direct action upon the heart muscle, he is not prepared to say.

*Second.* That it has little or no effect upon the bloodvessels; and, therefore, causes less blood-tension than digitalis, which, either by vaso-motor influence or direct action, or both, causes a contraction of the vessels, with a consequent rise of blood-tension.

*Third.* That it causes less gastro-intestinal disturbance than digitalis.

*Fourth.* That it possesses, like digitalis, both antipyretic and diuretic properties.

*Fifth.* That, unlike digitalis, it is not cumulative in its effects; and

*Sixth.* That it may be used in smaller doses than digitalis.

If Fraser's conclusions prove true in practice, we find a decided weight in the balance in favor of strophanthus; and, although experience teaches us to be cautious in accepting the much-vaunted virtues of any new remedy, yet the facts brought to our notice by one of such eminence should make us unhesitatingly experiment for ourselves.

Fraser has used *strophanthus* in the form of a tincture, in doses varying from three to twenty minims, twice or three times daily; but, in a recent article, he speaks of the dose as varying from five to ten minims. He has also experimented most successfully with the subcutaneous injection of the active principle, *strophanthin*, a glucoside, in doses of  $\frac{1}{10}$  of a grain; and, by this means, has noticed much more lasting effects from one dose than with the tincture. In one case, with severe symptoms from mitral regurgitation, the marked beneficial effect upon the heart's action by a

single subcutaneous injection of  $\frac{1}{10}$  gr. of strophanthin was noticed for eight days.

In the *New York Medical Record* of December 18, 1886, among the "Transactions of the Practitioners' Society of New York," are reports of cases by Dr. C. L. Dana, the only ones yet made public, so far as I know, in America.

Dr. Dana's results, in a comparatively small number of cases, are such as to make him believe that strophanthus, as now used here, is a valuable addition to our pharmacopœia, and can be often used in cases where digitalis is not so efficacious.

The testimony of other observers seems to point towards the favorable action of strophanthus, some believing that, eventually, it will supersede digitalis in the treatment of heart disease.

My attention was especially called to the drug by a well-known lady physician of this city, who is enthusiastic over its action in her own case, and has kindly allowed me to quote her experience with it:

During the previous year, this lady, a sufferer from a mitral lesion, was very ill, in the south of France, with pneumonia, during the progress of which the heart became very troublesome. At the suggestion of her physician, during her convalescence she began taking strophanthus; and, before twenty-four hours had passed, experienced the greatest relief from the breathlessness upon the least exertion, which had been one of her most distressing symptoms. The improvement continued steadily, until, by the advice of a physician in another part of France, she ceased to take strophanthus, when the former symptoms returned. Repeated experiments have shown her conclusively that the drug gives her great relief from dyspnea, and its effects are always more pleasant than those of digitalis. In the use of the latter she had always experienced a depressing effect, coupled with gastric disturbance; with strophanthus, however, the effect is always rather exhilarating, and it has never caused the slightest trouble with the digestion. Its action is always markedly diuretic; and, although she has never taken it in doses sufficiently large to carry the pulse below the normal rate, it has always had a distinctly calming effect upon the heart. She continues to use the drug, omitting it at times for a few days, and always experiences the same sensations upon resuming it again. Her testimony, therefore, is distinctly in favor of strophanthus as a substitute for digitalis.

Acting upon these suggestions, I was, fortunately, able to try the drug in a case of severe heart disease, transferred to me by Dr. F. I. Knight, in which a slight mitral systolic murmur, great dilatation of the left ventricle, pulmonary œdema, a very rapid, irregular, intermittent pulse, and almost constant orthopnea, were the chief symptoms. For several weeks, almost constant use of the tincture of digitalis, and trials of sparteine and caffeine, had failed to effect the action of the heart muscle, the pulse varying from 140 to 110 to the minute most of the time. Tincture of strophanthus, in doses of about three or four minims, three or four times a day, was tried; but, owing to some rather obscure symptoms, which I then thought might arise from the drug, it was discontinued after the third or fourth day; and although the patient insisted that she liked the medicine, and that she breathed more freely, I noticed no special action upon the heart or pulse.

Soon after this, the patient developed signs of con-

gestion in the lower part of the left lung, namely, dullness and slightly bronchial breathing; râles from rapidly increasing pulmonary oedema were heard on both sides; the legs, arms, and face were swollen, the dilatation of the heart increased and relief from great dyspnoea was obtained only by subcutaneous injections of morphia.

The husband of the patient having heard that Dr. M. L. Chamberlain of this city had had experience with strophanthus, suggested a consultation to which I gladly assented, and at his advice the strophanthus was again tried and gradually pushed. It was given finally in doses from fifteen to twenty-three drops by the ordinary glass dropper (about equivalent to ten or twelve minims) three or four times in the twenty-four hours; digitalin, in doses varying from gr.  $\frac{1}{16}$  to gr.  $\frac{1}{8}$ , being given between the doses of strophanthus when the patient was awake. It would be quite unfair to attribute all the gain which immediately followed to strophanthus, for although digitalis as used before in the tincture had not had the slightest apparent effect upon the pulse, yet the use of digitalin naturally makes it impossible to say which was the larger factor in the improved condition of the patient, but the following facts were noticed: rapid decrease of the dullness and bronchial breathing over the congested portion of the left lung, great diminution in the number of râles throughout the chest; the swelling of the arms and legs diminished, the dyspnoea was less marked; the action of the heart became much less feeble, while the pulse slowly dropped from 120 to 88, became perfectly regular and lost its intermittent character. This improvement continued for about a week, when a curious friction sound appeared near the angle of the left scapula, the exact nature of which it was impossible to determine, and that night, the patient while sitting up during a movement from the bowels suddenly fell back and expired. No autopsy was allowed.

*Synopsis of case.*—Patient suffering intensely in the last stages of mitral disease, after receiving no apparent benefit from the tincture of digitalis, sparteine or caffeine, obtains very great relief from somewhat large doses of tincture of strophanthus alternated with digitalin.

Another case in which I have noticed a markedly beneficial effect from strophanthus is a lady sixty-three years of age, for years a sufferer from valvular disease in which dyspnoea and great irregularity of the heart's action are the chief symptoms. During a severe illness last November, from which I never expected her to recover, all the most serious symptoms were greatly relieved by three or four minims of strophanthus given three times a day. General oedema of the legs disappeared; the action of the heart and pulse steadily improved and the latter, which by the use of digitalis had fallen to about 45, rose again to about 60, and although occasionally intermittent was more regular than I had ever known it under the previous use of digitalis. The patient is now vastly improved in health, moves about the house, is able to go out to drive or walk, and still takes about three minims of the strophanthus three times a day, and although the pulse still intermittes and is somewhat irregular, the action of the heart is much less tumultuous than before, and varies from 65 to 80 beats in the minute.

The last case in which I have used the drug is a

man about fifty-eight years of age, who has had symptoms which point to fatty degeneration of the heart, namely, a weak, rather irregular and rapid pulse with occasional attacks of faintness. This patient seems not at all sensitive to the drug, and I have gradually increased the dose to fifteen minims, four times in the twenty-four hours. Although the pulse has never fallen below 86 and usually is about 94 or 96 to the minute, it is now of very good strength and perfectly regular ever since he began to take the tincture about five or six weeks ago. Previously the pulse had often been above 100, and at times very weak. The general condition has slowly improved; there has been no recurrence of the attacks of faintness, and as the patient tells me he has always had a rapid pulse I have not attempted to reduce its action farther, and am at present diminishing the dose again to see how far the drug has a controlling action upon his heart.

From such a meagre array of cases I should, of course, be unjustified in making any remarkable claims for the drug, but the experience of others combined with the results of my own observation, makes me feel it should be brought before the profession and tested.

As to the preparations now in use in this country, I only know of the tincture and the soluble triturate tablets as prepared by Fraser & Co., of New York, in which one tablet represents one minim of the tincture.

I have reasons for believing that the tinctures which I have thus far tried, made by some of our best-known firms here, are not yet of as good a quality as those prepared by Prof. Fraser or by Messrs. Duncan and Flockhart, of Edinburgh.

Through the kindness of the lady-physician already referred to, I have seen the Edinburgh preparation, and instead of having a greenish hue, it is colorless, has a slight but distinct odor of sulphuric ether, leaves no precipitate when added to water, and has a less bitter taste than these tinctures which I have seen here.

I can but think, moreover, that our present preparations vary in their strength; a fact which makes thorough experimentation much more difficult, but by keeping in mind the same general principles which guide us in the use of digitalis, chiefly watching the character of the pulse, we shall be enabled to test the comparative value of strophanthus, with little danger of doing harm.

It is to be hoped that before long we can make experiments with the active principle strophanthin which Fraser tells us is a much more efficacious method of administering the drug than any other.

Increased facilities for obtaining the plant from Africa will doubtless before many months not only enable our druggists to give us this form of strophanthus, but at a greatly reduced price.

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—A student of the Albany Medical College, was asked the other day in class how he would treat a corpulent man. He said he generally found they would take beer. He will not get a diploma this spring.

## REPORT ON THE PROGRESS OF SURGERY.

BY H. L. BURRELL, M.D., AND H. W. CUSHING, M.D.

## CEREBRAL SURGERY.

THERE have been a few important contributions to the surgery of the brain. Mr. Victor Horsley's paper<sup>1</sup> read at the last annual meeting of the British Medical Association, gives the details of operating on the brain and the dangers that arise in the after-treatment of such cases. The following cases are recorded, all of which were successful. Two trephinations for traumatic epilepsy; the removal of a tubercular tumor from its previously located position at the junction of the lower and middle thirds of the ascending frontal convolutions. The cases of Mr. Horsley, Dr. Clark, of Glasgow, and the recent case of Hughes Bennett and Pearce Gould<sup>2</sup> seem to indicate that trephining for traumatic epilepsy, is becoming an established operation; it is certainly a justifiable, although not always a successful operation. On the other hand, the removal of tumors from the brain substance is not as encouraging. Four cases have been recorded; the case of Mr. Godlee<sup>3</sup> and Dr. Bennett, which cannot be regarded as successful, a case by Dr. Kirschfelder, of San Francisco, in which death occurred on the seventh day; Mr. Horsley's successful case; and the successful removal by Dr. Durante, of Rome, of an endocranial tumor from the base of the skull.

Of interest from a practical point of view is the London Pathological Society's exhibit of cerebral tumors<sup>4</sup> in which out of forty-four specimens of intracranial growth, only two would be suitable for an operative attack.

## COMPRESSION OF THE BRAIN.

E. VON BERGMANN in a recent report,<sup>5</sup> states that the mechanical action in compression of the brain, is similar to progressive cerebral anemia from other conditions. That the blood is driven from the capillaries by pressure, as water from a sponge, causing impaired nutrition, the effect of which is first irritation and subsequently paralysis of the nerve centres. Thus the pulse at first, through irritation of the vagus, is retarded, but later, when paralysis of the latter occurs, becomes more accelerated. For his reasons in detail, the reader is referred to the original article; which is also valuable from its reference to the latest advances in closely related subjects.

## A NEW CONTRIBUTION TO THE STUDY OF CRANIAL AND SPINAL INJURIES.

DR. B. VON BECK<sup>6</sup> during the last two years the author has investigated one hundred and eighty-two cases of injuries of this nature, of which number, one hundred and seventy-five occurred in military, and seven in civil practice. Twelve cranial, and thirteen spinal injuries are reported in detail with full comments on the cases. He contrasts briefly the symptoms of pure commotio cerebri with shock, excluding from consideration those so-called mixed cases of concussion, in which associated with the conditions of concussion dynamic or structural disturbances by rupture

of the connection between the delicate vessels of the meninges and the brain itself, are followed by hemorrhage. The latter may be very slight, and generally occur in the cortex, rarely in the deeper-situated vascular tracts. In regard to cortical centres, v. Beck adopts the view that these are, indeed, the terminations of different conduction-paths, but that by abundant anastomoses impressions are rapidly transferred to neighboring structures, which act as substitutes; and disapproves an extensive localization of individual smaller circumscribed cortical centres.

After a short enumeration of the disturbances of motor and sensory functions observed in all the severer spinal injuries, the author mentions the participation of the vaso-motor nerves, which are always present when the gray substance of the cord is involved. Priapism is a cardinal symptom. Other symptoms which subsequently soon appear, and can be ascribed only to a vaso-motor paralysis, are delayed capillary circulation in the paralyzed limb, dilatation of vessels and consequent slight edema of skin and subcutaneous tissues, and a slow return of normal color of the skin after circumscribed pressure. Elevation of temperature of paralyzed areas. Trophic disturbances accompany these vaso-motor changes hand in hand, as is shown by a predisposition to pressure gangrene, and atrophy of tissues, especially muscular. For a full analysis of the symptomatology the reader is referred to the original monograph. In regard to the treatment of these injuries the following brief synopsis of the author's opinions and experience, is especially of interest. Three complications appearing soon after the injury are particularly dangerous to life, namely, decubitus, myelitis with its sequelae, and purulent cystitis, the prophylaxis and treatment of which is given in detail. In fractures of the spine, v. Beck discountenances all extensive manipulations, which he claims are, as a rule, detrimental, and seldom of value.

## OPERATIVE TREATMENT OF EMPYEMA OF THE ANTRUM HIGHMORE.

The disadvantages of an artificial opening in this affection in the roof of the oral cavity as heretofore made, are that the opening is not always permanent enough (the suppuration sometimes lasting for years), and the easy access of particles of food to the antrum, thus prolonging or aggravating the suppurative process. To avoid these, Mikulicz<sup>7</sup> proposes to establish the opening for drainage in the lower nasal passage at the level of the inferior turbinate bone. The inner wall at this point is quite thin, and easily perforated by a short-bladed stylet. By cutting downwards and forwards, no harm is done, for the wall here becomes thicker and resists the instrument. Too free hemorrhage is controlled by iodoform gauze tampons. The after treatment consists in washing out the antrum with a balloon syringe having a curved nozzle. He found the operation easy on the cadaver, but an abnormally narrow nostril or excessive thickness of a turbinate bone might render it impracticable.

In a man aged thirty-three, affected for several years with empyema of the antrum, this treatment proved successful in four weeks.

## OPERATIVE TREATMENT OF CLEFT PALATE.

J. Wolff<sup>8</sup> reports twenty successful cases in which

<sup>1</sup> British Medical Journal, October 9, 1886, p. 670.<sup>2</sup> British Medical Journal, January 1, 1887, p. 12.<sup>3</sup> British Medical Journal, May 16, 1885, p. 988.<sup>4</sup> British Medical Journal, February 6, 1886, p. 240.<sup>5</sup> Arbeiten aus der chir. Klinik der Königl. Univers. Berl. I, Th. I.<sup>6</sup> Annals of Surgery, Aug., 1886.<sup>7</sup> Deutsche Ztschr. f. Chir. Bd. xxiv, 1-150, 1886.<sup>8</sup> Centbl. f. Chir., 1886, No. 24.<sup>9</sup> Arch. f. Klin. Chir., 1886. Bd. xxxiii, Hft. 1.

he has closed the palatal defect by operation correcting at the same time any existing labial and nasal defects. The after-treatment consists in fitting the patient with a vulcanized soft-rubber obturator,<sup>10</sup> and training the wearer in use of the voice until power of speech is fully acquired. Eventually the person may learn to talk without it. He recommends operating with the head dependent, and emphasizes the importance of minimizing the amount of hemorrhage, which he controls by uninterrupted firm pressure of from two to four minutes with pledgets of salicylated gauze held *in situ* by the finger or spatula. During the operation (and for the first few days following) the whole oral and pharyngeal cavities are irrigated with a tepid salicylic solution which the dependent position of the head renders possible, and diminishes the amount of swelling of the wound edges. The advantages of this method claimed by Wolff, are the diminished amount of hemorrhage, the opportunity for irrigation, which aids greatly rapid union, the rapid acquirement of good power of speech, and its adaptability not only to adults but also to young children.

#### REMOVAL OF CARCINOMA OF THE MOUTH, ISTHMUS OF THE FAUCES AND PHARYNX.

After a short review of a full report of twenty operations for the removal of wide-spreading cancer of the mouth and pharynx, in addition to eighteen unoperable cases, Polaillon<sup>11</sup> gives the following conclusions: (1) That pneumonia is a very dangerous sequela of extensive operations of the mouth and pharynx. (2) The chief danger is hemorrhage. (3) That antiseptics is the best safeguard against the former and preliminary ligation of the carotid (double ligature and division of vessel) against the latter, not only at time of operation, but also secondary. (4) That preliminary tracheotomy is indicated only where asphyxia is to be feared during the operation. Its prophylactic value against pneumonia is doubtful. Polaillon agrees with Verneuil that non-closure of the facial wound and through antiseptic irrigation are of far greater value against this danger. Of Polaillon's twenty cases subjected to operation, one died from syncope at the end of the operation, three from hemorrhage, two from sepsis, two from pneumonia; total eight.

#### INFECTIOUS SUBMAXILLARY CELLULITIS.

Paul Tissier<sup>12</sup> records two cases of Ludwig's angina, and elaborately reviews the subject.

It manifests itself in persons between twenty-five and thirty years of age, and frequently occurs after exposure to cold.

After three days of prodromata, the neck becomes swollen and painful. The tongue is so swollen that it is immovable, the buccal mucus membrane is reddened and there is great salivation. The mouth can hardly be opened owing to the swelling of the neck, and the chin is obliterated. At the end of a week, after marked oscillations of temperature, suppuration or gangrene occurs.

The disease is a grave one, an infectious process of a septic character, and is supposed to be due to a lesion of the buccal cavity, through which the germs enter the tissues between the chin and hyoid bone.

#### CICATRICAL STENOSIS OF THE TRACHEA.

Küster<sup>13</sup> reports the following classification of the above tracheal affection, which he divides into four groups according to its origin:

- (1) Traumatic, resulting in a majority of cases from attempts at suicide.
- (2) Syphilitic.
- (3) Neoplastic, sarcoma and carcinoma.
- (4) Diphtheritic most common.

(a) "*Granulation*" stenosis, generally at upper border of wound, due to a certain predisposition in addition to the irritation from the tube. Appears at times in form of a "granuloma" of the mucous membrane after cicatrization of the external wound. (b) *Submucous stenosis* caused by a puckering of the mucous membrane into transverse or longitudinal folds, and depressions by the submucous scar-tissue. The resulting chronic inflammation can cause softening of the cartilage and extend into the peritracheal tissue. (c) *Mucous stenosis*, most severe and also the rarest form, generally fatal.

Of the diphtheritic form Küster has collected from among 709 tracheotomies, 17 cases of stenosis. Of these 12 were successfully treated, 3 were discharged not cured, 2 terminated fatally; one from chloroform, the other from a peritracheal abscess. The treatment consisted in opening the trachea, and removing all granulation tumors, bands, or folds. The trachea was then kept patent by a systematic dilatation through the opening. In traumatic strictures a partial excision of the trachea is claimed to be the only means of obtaining a permanent cure.

#### OPERATIVE TREATMENT OF PULMONARY ECHINOCOCCUS.

J. Isreal reported a case of echinococcus of the lung, treated successfully by operation. From personal experience and from the reported cases of Schede, Cornil and Gibier, he concludes that treatment by incision and drainage, in the manner described in the report, is attended by far less dangerous consequences than an exploratory puncture which in three cases was followed at once by death from suffocation, in consequence of the cyst rupturing into the bronchi. In all three cases this rupture resulted from violent paroxysms of coughing, which the puncture caused. Hence it is of great importance that puncture should not be attempted until this reflex irritability has been controlled by morphine or chloroform narcosis. The latter is preferable if a radical operation can be at once performed. The details of the operation are fully described.<sup>14</sup>

#### RESECTION OF THE THORAX IN REMOVAL OF TUMORS OF THE CHEST-WALL.

Prof. H. Maas<sup>15</sup> has discussed this procedure, and after reporting three cases gives the following conclusions:—

- (1) That in aseptic operations and after-treatment, even where large portions of the ribs and costal pleura have been removed, a rapid expansion of the collapsed lung can occur without inflammation or inflammatory adhesions of the parietal with the visceral pleura, or with the soft parts used to cover the defect.
- (2) That the two great dangers from opening the pleural cavity and exposing the lung, namely, loss of

<sup>10</sup> Arch. f. Klin. Chir., Bd. xxv, p. 898, 1880.

<sup>11</sup> Gaz. de Par., lvi, 29-31, 1886.

<sup>12</sup> Le Progrès Medical, 1886, No. 25, 26, 27, 28.

<sup>13</sup> Versammlung deutscher Naturforscher und Aerzte zu Berlin. Berl. Klin. Wochenschr., Oct. 4, 1886.

<sup>14</sup> Deutsche Med. Wochenschr., xli, No. 19, May 12, 1886.

<sup>15</sup> Arch. f. Klin. Chir., Bd. xxxiii, Hf. 2, 1886.

moisture by evaporation, and sudden cooling of the exposed thoracic organs, can be avoided by the use of a steam-spray.

(3) That irrigation of the thoracic organs should be avoided, if possible, and when necessary, a non-irritating solution (salicylic acid) of the temperature of the body should be used.

#### STRICTURE OF THE OESOPHAGUS.

The treatment of this affection is again called to notice by Maydl.<sup>16</sup> The various methods adopted, since the operation of gastrostomy has furnished an opportunity of attacking a stricture from below, show a gradual improvement of the efficiency of surgical interference in these cases. Rejecting the old method of attempting dilatation *per orem*, the gastric opening was utilized to pass bougies through the stricture from below upwards (Bergmann, Schattauer). Others have used the gastric fistula to pass a thread from the mouth through the oesophagus to the artificial opening by passing a slender sound through from above and by means of this thread dragging into place the selected instrument, (rubber drainage-tube Weinlechner and v. Häcker, bougies, etc.), by which the actual dilatation of the constriction was to be accomplished. Maydl has introduced an apparently much improved method in that having once succeeded in finding a passage through the stricture it is never lost till the dilatation is complete. Briefly described, the operation is as follows. A small bougie, No. 5, to the upper end of which is attached a strong double silk thread twice the length of the bougie, is passed down the oesophagus and pulled out through the gastric opening by seizing its tip as it projects from the cardiac orifice with a pair of forceps, introduced for that purpose. The oral end of the thread is now fastened to the tip of a No. 10 bougie, which is drawn carefully down into the stricture, so that its upper end (to which a thread similar to the first is attached) is well in the oesophagus. This remains *in situ* twenty-four hours, and is then withdrawn, by means of the lower thread, through the gastric opening leaving the upper thread in its place, by which the next bougie could be drawn into position. The bougies are allowed to remain *in situ* twelve hours; and a larger one is introduced every second day. As the dilatation progresses the period of actual dilatation is diminished with each successive instrument. A small amount of cocaine (five per cent. solution) exhibited *per orem* reduces the irritation from manipulation. Introduction of the thread through the nose causes less irritation than through the mouth. In Maydl's patient this method caused a rapid improvement, and was far superior to the old system in rapidity of effect. It seems well adapted to the treatment of oesophageal strictures, cicatricial and non-malignant in character.

#### A NEW METHOD OF GASTROSTOMY.

The difficulty in preventing the escape of the contents of the stomach after gastrostomy is well known; and also how unsatisfactory, as a rule, are the numerous appliances devised for this purpose. Again, the rule of making the fistula as small as is possible, and allow the introduction of food, fails to remove this annoyance. The continual discharge also keeps the edges of the wound in a state of ulceration. After

describing a number of the most efficient means of meeting this difficulty, and stating their disadvantages, v. Häcker<sup>17</sup> proposes to solve the problem by placing the wound of operation two and one-half to three cm., to the left of, and parallel to the linea alba, so that after the operation the powerful contraction of the rectus muscle shall, by enclosing the opening in its fibres, act the part of a sphincter. Another advantage claimed is, that the incision of the rectus in the direction of its fibres and subsequent suturing of the peritoneum to the skin makes it more difficult for the gravitation of pus to occur between the muscular planes of the abdominal wall, and is more favorable to primary union, than when it is cut obliquely or transversely. After giving the arguments why this situation is equally as advantageous as the "Fenger" incision which is regarded as the most practical and is most commonly employed (one finger-breadth from, and parallel to the left costal arch), and quoting Hyrtl, Langer, Henle, Luschka and others as his authorities for his statements in regard to the anatomical position of the stomach in relation to the abdominal wall and to the proposed seat of operation, v. Häcker describes in detail a case in which this plan had been practised. The indication for gastrostomy was the existence of a very narrow stricture of the oesophagus near the cardiac orifice caused by carcinoma. The operation was as follows. The abdominal incision was eight cm. long, commencing at a point one finger-breadth from the left costal arch, two and one-half cm. from the median line, and parallel to it. After opening the rectus sheath, and dividing the muscle by separating the fibres with a blunt instrument, the peritoneal cavity was opened. The stomach appeared in the wound. A fold of the anterior wall above the fundus was drawn out of the incision and held in position by transfixing it with a needle, the ends of which rested on the external surface of the edges of the abdominal incision. After suturing the edges of the parietal peritoneum to the skin, at the seat of the proposed fistula, and closing the abdominal wound above and below this point, the stomach wall was fastened to the wound by eighteen sutures passed through the serous and muscular coats, so as to close the peritoneal cavity. For greater surety, several of these included the skin. Iodoform gauze dressing. The following day the needle was removed. Two days later the exposed surface of the stomach was divided, the mucous membrane and skin united by suture, and the patient fed through a medium-sized drainage-tube inserted in the opening. On account of the escape of the contents of the stomach an especially devised obturator was substituted. The patient was convalescent in four weeks, and until his death, two and a half months after the operation, from extension of the carcinoma to the lung, his condition was much alleviated. The fistula showed no signs of dilating, and thus a continual change to larger-sized tubes to prevent leakage, as commonly occurs, was avoided. After the wound had healed, the opening could be closed by approximating its sides laterally by a strip of plaster. If left entirely open the gastric contents escaped on reaching the level of the opening, especially in an erect attitude. The dissection of the rectus muscle parallel to its fibres causes far less hemorrhage than when these are divided transversely. Dissections on the cadaver show that if the fistula is established in the upper

<sup>16</sup> Ueber ein neues Verfahren der dilatation von Narbenstricturen des Oesophagus bei vorhandener Magenfistel. Allg. Wien. Med. Ztg. June 15, 1906.

<sup>17</sup> Wien. Med. Wochenschr., xxxvi, No. 31-32.

part of v. Hacker's proposed incision, its site exactly coincides with that of the "Fenger" incision, the latter intersecting the former in its (v. Hacker's) upper one third. It was also found that the stomach was easily accessible. The incision of the rectus should be between the highest and next inferior linear transverse.

(To be continued.)

### Clinical Memoranda.

#### A CASE OF HYDATIDIFORM MOLE.<sup>1</sup>

BY JAMES R. CHADWICK, M.D., BOSTON.

AMONG the cases of "Congenital Stenosis of the Female Genital Tract" published by me in the *Boston Medical and Surgical Journal* of June 3, 1886, was one (Case 3) in which there was an almost complete closure of the vagina just in front of the cervix uteri, which was entirely relieved by operation, when the patient passed from observation seven years ago. I was summoned to see her in consultation with Dr. A. E. McDonald, of this city, on June 6th, when I learned the following facts of her subsequent history. A healthy child had been born to her eighteen months ago; from the eleventh month of lactation, menstruation had recurred regularly until April 22d, the day on which she weaned her child, when it failed to appear. She had no special symptoms until May 7th, when her child was taken ill and she began to pass a small quantity of watery blood, which recurred in the subsequent four weeks almost every time she lay down. From that date the vomiting was very frequent and severe. Dr. McDonald was called about June 1st, when she passed a considerable clot. He found the uterus enlarged systematically, almost to the naval, and the vomiting controllable only by frequent doses of morphine. On June 6th, eleven weeks after the last menstruation, I found the patient in good physical condition with the temperature below 100°F., but the pulse 140-150. The vomiting was so frequent that scarcely anything was retained on the stomach. The pregnant uterus rose an inch above the navel, no fetal parts could be felt and no fetal pulse or placental bruit heard: the aortal pulse was, however, transmitted with remarkable distinctness. I was unable to reconcile the size of the womb with the data as to menstruation given by the woman. The size of the womb corresponded with the sixth month of gestation, yet at that period the fetal parts and heart sounds should have been recognizable. The cervix was not soft, but exhibited a deep laceration on the left side, from the angle of which a cicatricial seam extended across the vault of the vagina. The lips were everted and granular; the touch caused the granulations to bleed freely, so that I cauterized them with nitrate of silver under the impression that the hemorrhages might be attributable to that source, as in a case I had recently seen. No diagnosis was made then, but that afternoon it suddenly flashed into my mind that the manifestations of the case were identical with those of the case of hydatidiform mole reported by Dr. W. L. Richardson at the last meeting of this Society; the omission of two catamenia, the repeated sero-sanguineous discharges from the sixth to the eleventh week, the sudden enormous development of

the uterus without evidence of a fetus, the incessant vomitings. No cysts had, however, been evacuated. I accordingly wrote to ask Dr. McDonald to meet me at the patient's house on the second day after (June 8th), when we found that the woman had been vomiting incessantly for the past twenty-four hours; she was much exhausted and had a weak pulse of 140-150. Dr. McDonald administered ether and I tried ineffectually to pass my finger through the inner os. The cervix was rigid and unyielding, so that I had to resort to Goodell's dilator to open the canal. Though this was done very slowly and carefully, I soon recognized that the cervix was splitting in the line of the former rent. When dilatation was sufficient to admit my finger into the interior I could feel the smooth surface of a blood-clot. Dilatation was continued by the fingers alone for about fifteen minutes longer, until three fingers could pass into the interior, when fresh hemorrhage became so profuse that prompt evacuation was manifestly imperative. The hand was passed into the vagina and after a few efforts into the womb. Handful after handful of cysts held together by blood-clots and chorionic membranes, were thrown out into a basin while fresh blood streamed from the vagina. Within thirty seconds the uterine cavity was empty and the fundus, stimulated by the manipulations of the other hand through the abdominal wall, contracted at once and permanently. The hemorrhage, however, continued, though less profusely. Hastily inserting a speculum I saw the blood issuing from a deep rent in the cervix and the vaginal vault on the left side which opened into the pelvic cellular tissue. This was promptly arrested by a tampon of cotton soaked in a solution of perchloride of iron. The pulse was now found to be nearly imperceptible, but came up under repeated subcutaneous injections of brandy. The convalescence has since been slow. The next morning Dr. McDonald and I removed the tampon, washed out with a solution of permanganate of potash the blood-clots formed by the iron, and placed a suppository of iodoform in the rent. On the second day, when I was at Providence, she suffered for twelve hours from exhausting vomiting which was skillfully checked by Dr. McDonald, who, I should say, has had the chief care of the patient. To-day, the patient was comfortable, had no vomiting, no inflammation; a temperature of 101°F, but the pulse still 140. She bids fair to recover. With regard to the ulceration of the cervix and vaginal vault in the line of the old cicatrix, I believe the mishap to have been unavoidable in the emergency and moreover, to be of not infrequent occurrence. I have certainly seen it once before when speedy delivery of a child was necessary to save a patient's life threatened by inter-partum hemorrhage. The bleeding from the ruptured vessels in the cellular tissue, was in that case arrested by a tampon soaked in an iron solution. No bad symptoms followed and the fissure healed, so that finally a small notch in the cervix and a cicatrix across the dome of the vagina alone indicated the extent of the rupture.

The following letter was received from Dr. McDonald:

DEAR DOCTOR.—The patient recovered quite well from the shock of the operation, but remained for some time weak and restless. Pain was not at any time prominent nor did she have much hemorrhage. Her stomach was very irritable, with a tendency to vomit; she was, therefore, fed by enemata for the first two weeks. A douche of solution of permanganate of iron

<sup>1</sup> Read before the Obstetrical Section of the Suffolk District Medical Society, June, 1886.

was continued during that time. One week after operation she developed cellulitis starting from the point of rupture in the os. The temperature ranged about 102 F., but never got above that point. In the course of the cellulitis she suffered a severe attack of acute nephritis, which induced persistent vomiting.

On the third day of July, I discharged her comparatively well. I have not seen her since that time until to-day, September 11, 1886, I find her looking well and robust. She considers herself in very good health, and complains of nothing but a slight yet continuous oozing of dark blood. The fact that she is menstruating precludes a vaginal examination.

Yours very truly, A. E. McDONALD, M.D.

### FRACTURED TRACHEA.

BY E. C. FORTON, M.D.,  
Assistant Resident Physician, Tewksbury Almshouse.

JANUARY 31, 1887, a robust Irish-American, aged twenty-eight, a bricklayer, was admitted to State Almshouse Hospital, at Tewksbury, complaining of pain and soreness in the throat.

When first seen, his throat was considerably bound up with flannels, but the portion exposed indicated great swelling and redness. On being questioned, the patient said he had fallen, two days before, through a staging, striking his throat on a portion of the staging that did not break.

Placing my fingers on his neck, I easily detected emphysema, which, I found, on further examination, extended to border of the lower ribs in front and sides, and down the back as far as lower borders of the scapulae. The pupils were considerably dilated, though the patient claimed he had taken no medicine that day; the slightest handling of the trachea caused spasmodic breathing for a moment, although, at all times, breathing was slightly hurried and difficult; the voice was clear, but not strong.

When asked to locate the seat of injury, the patient placed his finger just below the cricoid cartilage. External digital examination proved that the hyoid bone was still intact; and the ability to articulate distinctly eliminated from my mind any possibility of injury, either to the thyroid or cricoid cartilages, and compelled me to believe that either one of the upper rings of the trachea was fractured; or the membranous structure between the rings, or the muscular tissue behind, was ruptured. No examination which the patient's condition would allow me to make, owing to the excessive amount of air in the tissues about the neck, enabled me to locate just where, in the upper part of the trachea, the injury took place; but we know that when a hoop is pressed together at two opposite points, the other two opposite points, that is, the sides, are the places where the hoop breaks; and, inasmuch as the emphysema was about equal on both sides of the neck, it is easy for me to conclude, since the blow in this case was on the front of the tracheal rings, that the upper ring, or first two rings, perhaps, was broken at the sides, so as to allow air to escape into both sides of the neck.

Patient related that, for the first twenty-four hours after the injury, his struggle for breath was very trying; swallowing of liquids, even, caused a great deal of pain; and that he bled freely for several hours after injury. There was considerable bronchitis present at the time of admission, and his sputa were quite bloody; both bronchitis and blood-sputa lasted for seventy-two hours. There was, at no time, oedema of the glottis.

*Treatment.* Patient was put to bed, and enjoined

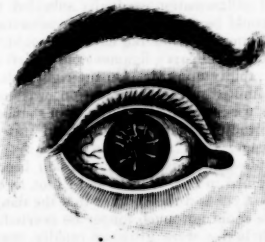
to keep his head as quiet as possible; given ten grains of calomel, which was followed, in six hours, by an enema of suds, free movement of the bowels resulting. The cold-pack was applied to the neck, and maintained for forty-eight hours. Other medication consisted in relieving the bronchitis, and a few doses of morphine, at night, to insure sleep.

The following I quote from my clinical book: February 2d. Patient more comfortable; less emphysema, less cough. February 4th. Emphysema diminishing; also soreness in the throat; swallowed liquids without much pain. February 8th. Only slight emphysema, which is at top of sternum. February 12th. Since last record no emphysema could be detected, and there is now no difficulty in swallowing solid food. Patient had apparently made a complete recovery.

### PERSISTENT PUPILLARY MEMBRANE.<sup>1</sup>

BY CHARLES S. TURNBULL, M.D., OF PHILADELPHIA.

I HAVE brought before you to-night a case of unusual interest to ophthalmologists and to medical men in general. The patient has in his right eye what is known as a "persistent pupillary membrane." This is a remnant of fetal life, but its exact structure has not been ascertained. Some consider it to be made up of atrophied bloodvessels, which have served their purpose. Other authorities hold that it consists of the remains of connective tissue through which bloodvessels pass. In this man's right eye there is a network of hair-like fibres occupying the outer half of the pupil. These fibres originate from the anterior surface of the iris, and interfere in no way with the constrictor muscle of the pupil. This form of congenital anomaly was first observed about 1735, and on an average about one case has been reported every five years since that time. I am indebted to Dr. P. H. Bailhache, of the U. S. Marine Hospital Service, for the opportunity of exhibiting this patient.



[In the subsequent discussion, Dr. E. Jackson said: This case is notable for the clearness with which it shows the relation between the membrane and the iris. In all the cases I have seen heretofore, as in this, the pupillary membrane has seemed to arise from the anterior surface of the iris; but in no other instance has the connection been so obvious, the membrane here appearing to be simply an extension of the anterior layer of the iris, and similar to it in structure.

<sup>1</sup> Read before the Philadelphia County Medical Society, at the Stated Meeting, February 23, 1887.

Dr. Turnbull said that the point referred to by Dr. Jackson is well illustrated in this case, and it settles the disputed question as regards the origin of these fibres. It is distinctly seen that the sphincter muscle is in no way involved. The membrane has no connection with the muscle nor with the inner pupillary margin.]

### Reports of Societies.

#### BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. DUCKINGHAM, M.D., SECRETARY.

\* FEBRUARY 14, 1887. The President, DR. O. F. WADSWORTH in the chair.

#### OVARIAN CYSTOMA OF RAPID GROWTH, CAUSING SEVERE PERITONITIS AND INTESTINAL OBSTRUCTION.

DR. JAMES B. AYER reported the case:

Mrs. B., forty-two years; fifteen weeks before was suddenly seized with severe pain in each groin. Examination next day showed a prominent swelling corresponding to the transverse colon, together with peritonitis; pain most marked in inguinal regions. Morphia prescribed.

The bowels gradually became obstructed. At the end of four weeks, there were marked tympanites, delirium, nausea with vomiting, and severe pain, requiring two grains or more of morphia daily. There was no defecation for eight days.

These symptoms strongly suggested obstruction from malignant disease.

By Dr. Warren's advice, he having seen her in consultation at different stages, the transverse colon was punctured with a fine trocar, and croton oil and enemata were freely used. The distension was much relieved by puncture and the bowels were opened on the ninth day—the pressing symptoms were relieved, and there was no serious trouble afterward from obstruction. Peritoneal inflammation gradually subsided until the abdomen could be examined to better advantage.

A small lump of stone-like hardness could be made out just above Poupart's ligament on the left side, and this grew rapidly upward. On the right side, after a while, a limited area of fluctuation was made out. When this was evacuated a hard lump remained.

Dr. Whitney examined the fluid and stated that it probably came from an ovarian cyst. As the cyst rapidly refilled after aspiration, and had become purulent it seemed to Drs. Warren and Elliot, as well as to Dr. James Ayer and the speaker that the danger from this source could not much longer be averted. Moreover, both lumps were growing rapidly, that on the left had passed the umbilicus.

As peritonitis had disappeared, and as she had gained a very little strength from the large amount of nourishment, stimulants and tonics which she had taken, being able to sit up a few moments daily, it was thought proper to insert a drainage tube, and while under ether to remove the tumor if possible.

February 9th. Dr. Warren, assisted by Dr. Elliot, performed ovariectomy skillfully and speedily, and the patient rallied from the operation. For twenty-four hours there were good hopes of recovery, but she sank from septicæmia on the fourth day.

One of the most important among the many inter-

esting points connected with this case according to Dr. Elliot, is the fact that this dense tumor while clinically as malignant as possible, was found by Dr. Whitney not to be pathologically malignant.

DR. WARREN remarked that the condition of the patient when first seen by him was one of typical chronic obstruction. The distension of the abdomen was excessive and the point of constriction appeared to be above the cæcum, as enemata could be made to ascend to nearly that point. It was evident that an attempt made to open the bowel above this region, had such an operation been thought advisable, would not have been successful, owing to the presence of the tumor.

The cyst was tapped the first time for the purpose of relieving pressure. After suppuration had set in, laparotomy was performed, primarily to drain the pus cavity; but it was found impossible to attach the cyst wall to the abdominal wound, owing to its friable character. Notwithstanding the suppurating cyst, the condition of the patient was more favorable at the time of operation than at any moment during treatment.

#### POISONING BY CARBOLIC ACID.

DR. MINOT reported the case of a young married woman who was brought to the Massachusetts General Hospital, February 4th, nine hours after having swallowed, with suicidal intent, about seven fluid-drachms of liquid carbohc acid, stated by the apothecary of whom it was bought to be of the strength of from 90 to 95 per cent. Soon after swallowing the poison she became unconscious, with cold clammy extremities. In about three hours violent vomiting set in; two hours later she became able to speak and to swallow. Small quantities of saturated solution of carbonate of sodium, were administered, but were not retained; eight hours after taking the poison she passed a pint of "black" urine. She was brought to the hospital at 4 P.M., in the following condition: great prostration, urgent vomiting, cold extremities, pallor, intellect confused, no recollection of what had occurred, pulse 114, small and compressible, temperature 99.6°, respiration rapid, shallow, with a few tracheal rales. There was no carbohc odor to the breath, no white streaks about the lips, tongue moist, with white coat, fauces and posterior wall of pharynx somewhat dry, with a white surface. The patient could talk and swallow. Some castor oil which was given was soon vomited. Two ounces of greenish-black urine were drawn off, containing a very slight trace of albumen.

In a few hours the general condition improved, but the patient complained of dryness of the throat and of a burning sensation along the œsophagus; there was much vomiting and retching, with intense thirst, and she was unable to speak above a whisper. The next day there was marked tenderness of the epigastrium and left hypochondrium, and the vomiting persisted; she also coughed and raised mucus. The vomitus was not remarkable except on one occasion, when it contained specks of blood. The patient was very hoarse, and the intense thirst and dryness of the mouth continued. During the following night vomiting gradually ceased, and she could retain iced milk. After this there was progressive improvement, but she was still unable to speak above a whisper on the fourth day, and had some difficulty in breathing. The urine gradually returned to its natural color. On the sixth

day the speech was clear and the patient swallowed without difficulty. She was discharged, well, on the ninth day.

FEBRUARY 28, 1887, the President, DR. O. F. WADSWORTH, in the chair.

DR. W. W. GANNETT showed specimens from the autopsy of a case of

#### ECHINOCOCCUS OF THE LIVER.

The publication of the discussion is reserved until the presentation of the clinical report.

DR. JOHN HOMANS showed an

#### OVARIAN CYST

removed by operation. This cyst which was unilocular, showed evidences of having been multilocular. The patient who had had peritonitis before operation is now doing well.

DR. VINCENT Y. BOWDITCH read a paper on

#### THE USE OF STROPHANTHUS HISPIDUS IN DISEASE OF THE HEART.<sup>1</sup>

and he passed about specimens of the tincture from different manufacturers to show the marked difference in their appearance.

DR. F. I. KNIGHT said that this is a drug that can be more easily tested than some others, because it either has or has not certain definite qualities, the presence or absence of which can be discovered by experiment. Even if it prove to be no better or even not quite so good as digitalis, it is still very useful to have an additional drug for use when that, for any reason, cannot be employed. If it shall prove possible to separate its active principle, so that it can be used subcutaneously and with certainty in cases of heart failure, where we now use ammonia, it will be a great boon.

He had personally used strophanthus in a few cases, and it seems to act promptly and efficiently; but his experience with it is not yet sufficiently large to warrant a definite opinion.

It was proper to say that some of the specimens for sale in this city have been poor ones.

DR. F. C. SHATTUCK said that he had been much impressed by Prof. Fraser's paper on strophanthus and had, immediately after reading it, asked Mr. Metcalf to send for some of the drug. Since its reception he had employed it in six or eight cases, but has not as yet been able to come to definite conclusions as to its merits. In one case he thought he had got toxic effects from it; in two others the drug had seemed useless, perhaps because the dose was not sufficiently pushed. The tinctures of different manufacturers seem at present to differ in strength, which makes it more difficult to carry out satisfactory experiments. The case was mentioned of a little girl of ten, with mitral disease, now under treatment. Several weeks ago, while almost absolute rest was being maintained, the symptoms grew gradually worse, cyanosis increased, moderate external and internal dropsy appeared, the jugulars and the liver pulsated, the stomach rejected everything, the urine fell from ten to two ounces per diem. About eight ounces of blood were withdrawn by leeches over the liver, and that night the child slept well, the next morning eat a large breakfast, and the urine increased to ten ounces. Two days after the leeching two minims of the tincture of

strophanthus were ordered thrice daily, and in the next twenty-four hours the child passed more than 120 ounces of urine. It is not easy to say how much of this is attributable to the drug, how much to the leeching. The drug was soon omitted, but has lately been resumed and gradually increased to six minims thrice daily, without the slightest apparent effect on the pulse. In another case similar results were obtained. Both of these form part of a series which will be reported to the Society at a later meeting in illustration of another point in cardiac therapeutics. To reach definite conclusions with regard to the value of a new drug, time and the teachings of a large number of carefully observed cases are required. Such careful trial strophanthus certainly merits, and the speaker rejoiced that Dr. Bowditch had brought forward the subject.

DR. H. I. BOWDITCH had given strophanthus in a case of old mitral regurgitation with enlarged area of cardiac dulness, dyspnea and weak irregular pulse. An obstruction murmur had recently appeared. The patient had steadily improved since this drug was used, there having been slight improvement twenty-four hours earlier. There is now a simple regurgitant murmur and the apex which was without, is now within the nipple. He had also employed it in a case of rheumatism with cardiac lesions and great dyspnea. This patient was extremely ill and died in four days without relief. The drug in this case came from a supply which was said by one of the previous speakers to be poor. With his present knowledge he should use it if digitalis failed.

DR. F. H. WILLIAMS said that the work done by Prof. Fraser on strophanthus deserves respectful attention, as he is one of the few experimenters who have studied this drug, both from the physiological and the clinical side.

In strophanthus we have undoubtedly a very valuable substitute for digitalis and a much more active substance.

DR. LOGAN, of Liverpool, has suggested that the marked and prompt results obtained by the use of strophanthus are probably due to its great strength, and he has been able to get a similar action from digitalis by using it in large doses, m. x every hour for eighteen to forty-eight hours.

#### MASSACHUSETTS MEDICO-LEGAL SOCIETY.

WM. H. TAYLOR, M.D., SECRETARY.

FEBRUARY 2, 1887.

The meeting was called to order at 12.20, P.M., at the Rooms of the Boston Medical Library Association, by President Winsor. Present eighteen members. Records of the last meeting were read and approved.

PRESIDENT WINSOR, Chairman of the committee on Medical Expert Testimony made a verbal report to the effect that the committee had nearly agreed on the form of a bill to present to the Legislature. Some remarks on the subject were made by members Hurd and Johnson.

ASSOCIATE MEMBER FITZ introduced the following preamble and motion:

It is for the interest of medical examiners to make their reports of autopsies as exact and as comprehensive as possible. Especially, since, at the time of the

<sup>1</sup> See page 223 of this number of the Journal.

examination, it is uncertain what questions may subsequently arise as to the cause and manner of death. The reports should, therefore, be based on some scheme or plan which experience has proved to be the most satisfactory to meet the various conditions which may arise. The most feasible way of producing such comprehensive reports is for each examiner to make his record of the post-mortem examination upon a printed blank or form, which shall indicate the data to be determined and the sequence to be followed.

It is, therefore, moved that a committee of three be appointed to prepare for the consideration of the Society, a form to be followed in returning the record of an autopsy.

The motion prevailed and a committee was appointed consisting of Prof. Fitz, and Medical Examiners Draper and Holt.

MEDICAL EXAMINER DRAPER offered the following resolutions:

*Resolved*, that the Massachusetts Medico-Legal Society expresses its cordial sympathy with all proper efforts to limit and control the growing facility with which civil suits are brought in the courts of this State with unfounded declarations of malpractice as a ground for damages.

*Resolved*, that a committee of three be appointed to cooperate with others, either individuals or societies, in obtaining the relief which the medical profession desires and needs in relation to the evil above described.

MEDICAL EXAMINER HURD seconded the motion for the appointment of a committee, and members Draper, Holt and Johnson were chosen such committee.

MEDICAL EXAMINER DRAPER asked what medical examiners understood by the term "settlement" in relation to the bodies of residents or strangers, and also whether members found it a hardship to collect fees of the Commonwealth in cases of examination of the bodies of strangers.

The questions were replied to by Drs. Hartwell, Pinkham, and Fish, giving some variety of opinion.

Medical Examiner Draper stated that he had sent a bill to the Judiciary Committee of the Legislature, giving medical examiners the power to hand over bodies of strangers to the overseers of the poor in the town where the view is made, for burial, and to provide payment of fees in all cases by the County Treasury.

On motion of MEDICAL EXAMINER MEAD, the action of Medical Examiner Draper was approved.

MEDICAL EXAMINER PINKHAM read a paper entitled,

#### AN ANOMALOUS ARRANGEMENT OF THE VEINS OF THE NECK.

The usual site of the external jugular vein was occupied by a very large vessel which freely communicated with the internal jugular, and could be traced above to the jugular foramen, and below to the subclavian vein. The arrangement obtained on both sides of the neck. The subject had died from section of these anomalous vessels by a comparatively superficial cut.

Medical Examiner Pinkham also read a paper on, A CASE OF POISONING BY OIL OF CHECKERBERRY, WITH AUTOPSY.

A fluid-ounce of the oil was taken to produce abor-

tion. The essayist reported several other cases where toxic or lethal doses had been taken.

MEDICAL EXAMINER FISH spoke of the administration of the oil of checkerberry in rheumatic affections, and had given a fluid drachm or more in twenty-four hours without toxic symptoms.

DR. HURD reported a case of

#### RECOVERY FROM THE INGESTION OF HALF A PINT OF THE ESSENCE OF CHECKERBERRY.

MEDICAL EXAMINER DRAPER said that all essential oils were similar in their poisonous action, and reported a case of death from two fluid-ounces of oil of cedar, the fatal effect ensuing in about an hour.

ASSOCIATE MEMBER DAVENPORT stated that oil of birch is nearly pure methyl-salicylate, and does not contain gaultherylene as oil of checkerberry does. The heaviness of oil of birch is the cause of its adulteration with chloroform.

MEDICAL EXAMINER WINSOR made some remarks on the Lexington murder and mutilation case, mentioning evidence to show that the subject had died rapidly from hemorrhage and undoubtedly from one wound.

On recommendation of the Standing Committee, Arthur Lord, Esq., of Plymouth, was unanimously elected an associate member.

#### NEW YORK NEUROLOGICAL SOCIETY.<sup>1</sup>

DR. E. C. SEGUIN read a paper entitled

#### A CONTRIBUTION TO THE PATHOLOGY OF THE CEREBELLUM.

A detailed account of one case was given, and specimens, gross and microscopic, illustrating its pathological anatomy, were shown. Three other cases of cerebellar disease were briefly presented, as card specimens, with their anatomical demonstrations. The following is a summary of the first case: Male patient, forty-five years old at time of death; a retired officer of the United States Navy. Eighteen years before death, illness began with headache (not strictly occipital) and one or more seizures of an epileptiform or apoplectiform character. These were followed by impaired vision, and more or less continuous headache (fronto-occipital). Later appeared nystagmus and typical cerebellar titubation; slight slowness of speech. There was no distinct paralysis, true ataxia, anesthesia, vertigo, or mental impairment. During several years, from 1877 to 1883 or 1884, the only symptoms were slight frontal headache, defective vision, partial atrophy of both optic nerves, nystagmus of varying form, slight slowness and indistinctness of speech, increased patellar reflex, and titubation.

In February, 1885, an epileptiform seizure left behind it partial left hemiplegia, without contracture and anesthesia. Death on 22d of April, 1885, preceded by a set of distinctly bulbar symptoms; increased dysarthria, dysphagia, salivation, polyuria; also increasing stupor.

*Lesions.* Cyst of cerebellum, destroying the caudo-ventral part of the middle lobe (not involving frontal third of the vermis superior), penetrating into the right lateral lobe as far as the nucleus dentatus, not destroying it, and probably exerting only slight pressure upon the floor of the fourth ventricle. There

<sup>1</sup> Concluded from page 248.

were also found (1) a small, hemorrhagic focus, two millimeters in diameter, in the ventral half of the pons on the right side, in the midst of the pyramidal fasciculi. This explained the left hemiplegia, and from it, caudad, could be traced a complete descending degeneration of the right pyramidal tract into its subdivisions in the spinal cord. (2) Very extensive arteritis obliterans of the encephalic vessels, causing numerous (mostly symmetrical) foci of softening in the cerebral hemispheres. The only system-degeneration which could be traced to the loss of substance in the cerebellum was a moderate reduction in the size of the opposite (left) olive, and partial atrophy of the right restiform body.

The author called attention to several conclusions to be drawn from a study of these four cases:

(1) As to diagnosis: Tumors of the cerebellum produce very variable symptoms; but one symptom, namely, cerebellar titubation, is, as claimed by Nothnagel in 1876 or 1877, pathognomonic of a destructive lesion in the middle lobe of the cerebellum, more especially its caudo-ventral masses. In Dr. Seguin's cases, optic neuritis or atrophy had not failed, which was in marked contrast to his experience with tumors of the cerebral hemispheres, which do not usually cause lesion of the optic nerves (1:5 or 1:4). Vomiting was a frequent symptom; occipital headache and rigidity of muscles of the back of the neck were less frequent, but very valuable symptoms.

(2) As to therapeutics: Three of the patients had obtained repeated relief from serious symptoms—paroxysms of headache, vomiting, and epileptiform attacks—by the use of iodide of potassium, in doses of from thirty to sixty grains, three times a day.

(3) As to prognosis: Two of the patients did not die of their cerebellar disease (both cysts), but of complications. Case 1 of diffused arteritis obliterans, and consequent softening in various parts of the brain (including impaired nutrition of the bulbar nuclei); the other case, No. 2, of an acute tubercular meningitis. Consequently, we may hope, in a few cases, to cause or to witness an arrest of the cerebellar disease. The disorder in voluntary movements, and the already-developed lesions of the optic nerves, are, of course, irremediable.

#### DISCUSSION ON DR. SEGUIN'S PAPER.

DR. BRADNER spoke by invitation: He had been the attendant in the case of the child to which Dr. Seguin had referred. He had not prescribed the washing-out. It had been done by a prominent physician of the place. He had done it a number of times during three weeks, but had then refused, believing that the child had brain disease of some form. He saw the patient first in November. The vomiting was always in the morning. There was no pain connected with it then, although a frontal headache had developed during the last few months. The treatment prescribed by Dr. Seguin had been the iodide of potash, fifteen grains t. i. d., increasing five grains daily, until one hundred grains were taken at a dose. The course had been interrupted by several attacks of acute gastritis, but the child had had those attacks previously. They did not appear to depend upon the medication. The eyesight has been perfect; the child could detect the smallest point made by a lead-pencil or needle. While using the iodide his headache had improved, as had some other symptoms, but he retained his old-man's gait.

DR. SEGUIN remarked that, though seeing well, the child had typical choked disk.

DR. BRADNER added that, since seeing Dr. Seguin, he had obtained a history of injury in the case. Two years ago, and just before the commencement of his illness, he had, while trying to skate, fallen, and received a severe blow on the back of his head. One result of this injury had been abiding terror at the sight of a body of water or ice.

DR. SHAW had shown a child at the American Neurological Association in 1878, on account of a peculiar ataxic gait, like that of locomotor ataxia. The later symptoms had pointed to a tumor of the cerebellum.

DR. PUTNAM JACOBI referred to the recent collection of cases by Bernhardt. All cases published previous to 1884 had been collected by Nothnagel. Dr. Seguin's cases tended to confirm Nothnagel's laws. There were many resemblances between the symptoms of cerebellar tumor and those of tumor in other parts of the brain. The peculiar violence of the headache and the choked disk found in most cases of cerebellar disease might, she thought, be due to the increased pressure of a tumor confined by the tentorium. This element had not been commented upon, and she would like Dr. Seguin's opinion upon it.

Another point referred to the fact that the laws formulated by Nothnagel recognize the possibility of complete latency of the tumor, no symptoms at all being present when but one lobe of the cerebellum is affected; such symptoms appearing only when the tumor encroaches upon the central lobe. In one of Dr. Seguin's cases, the tumor only occupied the lateral lobe. Of course, an indirect affection of the central lobe might be present even in such a case.

DR. LESZINSKY referred to a case to which he was called in consultation by Dr. Alexander. The boy had the typical gait of spastic paraplegia; any attempt to stand caused spastic contractures in the limbs. The ankle clonus was present, and the knee-jerk was exaggerated. There were no cerebral symptoms; the fundus was normal in both eyes. The father and mother were both alcoholic and unworthy people. Finally the child became unable to walk, but there were still no cerebral signs, no vomiting. Two months before death the fundus was still normal. Later tremor developed, and paralysis of the abductors, of the fifth, and of the third nerves. Total blindness occurred. The nurse, a graduate of Bellevue, was positive that the child could see nothing. It died in a convulsion. Unfortunately, the body was immediately frozen, and the specimen was unfit for sections. The tumor was found occupying one side of the cerebellum. The spinal cord was not fit for examination. There was a well-developed meningitis, and the paralysis was accounted for by considerable exudation about the cerebral nerves. One peculiarity had been a subnormal temperature during one stage of the case.

DR. STARR had had occasion some time ago to make a collection of cortical lesions from American literature. He had at the same time made a collection of cases of cerebellar disease from the same sources. As the data obtained but corroborated Nothnagel's results, he never published them. But Dr. Seguin having remarked upon the value of corroborative evidence he would briefly refer to them now. From 1860 to 1884, 160 cases of cerebellar disease were reported in American literature. In only 40 of these

were the symptoms and the autopsies described with sufficient accuracy to warrant conclusions. These 40 the speaker had quite thoroughly analyzed. In four there were no symptoms; in one of these there was congenital atrophy of the cerebellum, in two abscess, and in one a large cyst. Of the remaining 36 presenting symptoms there was headache in 36, incoördination in 25, vertigo in 20, vomiting in 18, blindness in 14, dim vision in 6, diplopia or strabismus in 7, deafness in 7, facial spasm or paresis in 4, hemiplegia in 9, general paralysis in 4, mental symptoms in 8, stupid 7, mania 7, convulsions in 7, sexual desire increased in 2. Males 23, females 17. Ages between one and twenty years, 11 cases; between twenty and forty years, 16 cases; between forty and sixty years 9, cases; over sixty years, 1 case; age not stated in 3.

In two of the eleven cases in which incoördination did not occur the lesion probably involved the middle lobe. In cases where incoördination occurred various parts of the cerebellum were involved. But the probability was that the middle lobe was affected in the majority. There were only two instances of increased sexual desire. Bernhardt had found but one instance in ninety cases of cerebellar tumor, and Nothnagel but two cases. The speaker thought that it might be thrown out as a symptom of cerebellar disease, and regarded as one of accidental occurrence. The escape from vertigo in Dr. Seguin's case was explained perhaps by the recent discoveries in the anatomy of the course of the acoustic nerve. This nerve served for the sense of hearing and the sense of space. The center for hearing is in the pons. Edinger finds the center for equilibrium in the cerebellum to which acoustic fibres pass by way of the middle peduncle. From this center the central tract probably passes onward to the superior peduncle. Dr. Seguin says that the superior peduncle escaped in his case. It is therefore natural that vertigo should not have occurred.

The tendency to rotation was an interesting feature in these cases. There was a tendency to fall or turn forward in two cases; the lesion was in both a tumor in the vermis, in the anterior part. There was a tendency to fall to the right in two cases, in one there being a tumor in the left middle peduncle, and in the other an abscess in the same part. There was a tendency to fall to the left in two cases, in one there being an abscess in the right middle peduncle, and in the other a tumor in the left middle peduncle. A patient of Nothnagel, whom the speaker had seen in Vienna, when getting up in bed had always a tendency to turn to the right side. Nothnagel considered this due to vertigo. It was only present when the patient was erect. The patient felt as though about to fall to the left side, and hence turned to the right. This case had a tubercle of the left middle peduncle of the cerebellum. Nothnagel considered this symptom only produced by affection of the middle peduncle. In the two cases in the table where the tendency was to turn to the right there was disease of the left middle peduncle: while in the two in which the tendency was to the left, in one the right peduncle and in the other the left peduncle was affected. No rule can, therefore, as yet be laid down as to the cause of this symptom.

DR. ENGLISH had had charge of the case which formed the subject of Dr. Seguin's paper, and he congratulated the Society upon the progress which had been recently made in the diagnosis and treatment of

cerebellar disease. Early in 1878 Dr. Seguin had written him a letter, accurately diagnosing this case as seen on autopsy.

DR. SEGUIN closed the discussion. He was not surprised to learn of the little boy's fall, as he was a firm believer in the traumatic origin of these conditions. It was very difficult to obtain a history of fall. He could not give an opinion upon the question propounded by Dr. Putnam Jacobi. In regard to ascribing the vertigo to the acoustic nerve, he was not yet certain that the acoustic nerve had cerebellar origin. He thought it would be difficult to trace fibres through the lateral peduncle of the cerebellum, the vermis, and the anterior peduncle.

He said Dr. Starr had probably made a mistake when he referred to Nothnagel connecting rotation with disease of the middle peduncle. Middle vermis he had probably meant to say.

DR. STARR accepted the correction.

### Recent Literature.

*On Aphasia: being a Contribution to the subject of the Dissolution of Speech from Cerebral Disease.* By JAMES ROSS, M.D., LL.D. 8vo. pp. 128. London: J. & A. Churchill. 1887.

This little monograph is substantially a reprint of a series of papers that appeared in the Medical Chronicle, and is a very convenient work. The author gives first the report of ten cases illustrating the different forms of aphasia, most of which occurred in his own practice. These are followed by a very good résumé of our present knowledge as to the morbid anatomy of the affection, and the rest of the book is devoted to the morbid physiology of the disturbances of speech. He divides aphasia into a motor and sensory form. Motor aphasia is held to be a genuine motor paralysis, and is further subdivided into aphemia, agraphia, and amimia. Sensory aphasia, in like manner, is considered a true paralysis of sensation, and is subdivided into the aphasia of recollection, psychical blindness, and psychical deafness; psychical blindness including the word-blindness of Kussmaul and the soul-blindness of Munk. Beside these "disturbances of the apperceptive faculties" in sensory aphasia, the author considers that there are disturbances of the expressive faculties dependent upon the impairment of sensation, and these he classifies as paraphasia, paraphrapia, paralexia, paramimia, and apraxia. A good account of the theories of Kussmaul, Charcot, Lichtheim and Broadbent are given, with the various diagrams which these writers have used to illustrate their theories. The author, after advancing his theory that a motor or sensory paralysis is the bases of aphasia; attacks with considerable force Broadbent's theory of "idea" and "perceptive" centres. Furthermore the author, agreeing with Hughlings-Jackson's views as to evolution and dissolution in nervous disease, claims that nouns are the latest acquisitions in speech, and are therefore the most highly organized portion of it; therefore, when the faculty of speech is diseased, this most complex acquirement is the first to be affected, and the loss of nouns is due to this fact rather than to disease of any "naming" centre as Broadbent thinks. The book aids in making this difficult subject clear, and is an important contribution to our knowledge.

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THE EXTRA-ASYLUM DEPENDENT INSANE.

II. THE INSANE IN ALMSHOUSES.

It is a sharp contrast to the report of the condition of the patients referred to editorially in our last issue, is that of a large number of the 684 dependent insane who live in almshouses. The first complete visitation of the Massachusetts almshouses was made in 1884. At no time have they undergone a full inspection, with reference to the number and condition of the insane inmates, by medical visitors conversant with the requirements of the insane. Occasionally, of late years, the State Board has authorized visitation by medical specialists in insanity for this purpose. The result has been, as a careful reading even of the condensed accounts published by the Board will show, to reveal a deplorable amount of neglect and wrong treatment, due largely to ignorance by most keepers of almshouses and by local authorities of the widely different care and management required, as a rule, by their sane and insane charges. Nor has it been the medical visitor alone who has recognized this wretched state of affairs. In an account of the visitation of 130 almshouses, in several counties, by Mrs. Sarah M. Brown, which appears in the last report of the Board, we read that: "In many cases, the insane are simply kept on the premises; but, with the limited accommodations, they are improperly cared for. The towns, on the score of economy, attempt to do in this direction work which, on the whole, is poorly done." Again: "Quite a number of those visited by me were greatly infested with vermin."

The dirty and disorderly state of poorhouses in many of the towns, in regard to which specific statements are made, is simply disgraceful. An expert examination in the almshouse in Fall River caused quite an acrimonious controversy in that city, partly political, of course, but, as a result of which, the superintendence has been changed twice, and still a third time this month, although leaving the main requirement unfilled, namely, a new almshouse, in place of the present defective buildings.

We find, also, that occasional acute cases of insanity, instead of receiving legal commitment and asylum treatment in the early and curable stages of the disorder, have, by reason of the mild nature of the attack, and for the sake of saving expense to the towns, been confined in almshouses from the first. The intermixture of the sane and insane, male and female inmates, has been found to be not properly guarded against in not a few of the poorhouses. In respect to the following points: selection of cases; facts as to sickness and death of the insane; the amount of room, matters of cleanliness and hygiene; amount of restraint and seclusion; number and kind of "cages" and "cells"; the kind and amount of diet; the state of the bedding, clothing, warmth, bathing appliances, water-supply, etc.—unfavorable observations have been repeatedly made. These criticisms, let us emphasize, do not necessarily apply to certain of the almshouses of the larger cities, in some of which the care of the insane leaves little to be desired.

The recent endeavors of the State Board to remedy these evils appear to be well directed, and it is unfortunate that the work was not undertaken long since. The recent legislation in this direction, especially that compelling the removal of unsuitable cases from almshouses, and the yearly visitations now being made by the direction of the Board, are indications of its appreciation of the necessity of supervision, and its desire to ameliorate the lot of these unfortunates.

Whether the building be new or old; whether there be separate wards or other special quarters provided for the insane of one or of several towns, their proper care undoubtedly will, in great measure, depend on whether or not a conscientious and efficient keeper falls to their lot. Their supervision, like that of all other extra-asylum insane of this class, should be undertaken by competent medical men, practised in matters of lunacy, who shall be properly paid by the State to make regular and thorough inspection. In default of such means, the only humane step is, we believe, to gradually commit patients now in almshouses to their proper asylums. They differ in no respect, it should be remembered, from a large number already in asylums, who have the benefit of medical supervision.

In the present overcrowded state of these institutions this would be impracticable, although we doubt, should this course be followed, if the treatment of curable cases in the asylums would be so far hampered as to offset by any means the good to come from delivering a number of insane patients from squalor and neglect. At all events, this transfer will no longer be looked upon as unwise when the project of providing for the over-accumulation of insane in our asylums, which is advocated by most superintendents, is put into operation. We refer to the erection, near each asylum, of small, inexpensive buildings for the accommodation of the chronic insane, these additions being made to keep pace with the gradual increase in the population of the main establishment. By this

means, economy, ease of administration, nicer classification, and constant medical care would be ensured; and we should hear little of the poorhouse lunatics, whose pitiable lot should be, we think, the strongest incentive for hastening the adoption of this desirable arrangement.

We cannot leave this subject without calling the attention of physicians in our various towns to the fact that their communities are but little alive to the needs of these victims of confirmed mental disease; and that it is in their power to encourage inquiry into, and to aid in rectifying, abuse and neglect in this quarter. Appeals to the State authorities, such as are frequent in matters of public health, cannot be made by the patient, and are often not made by others, as local interests are not thought to be especially involved.

#### STUNNING AND BURNING FROM ELECTRIC-WIRES.

As an incident in the development of the use of electricity for mechanical purposes, a class of injuries has arisen which present certain peculiarities. "Line-men" and "electric-light trimmers" are the ones most frequently injured; and in the pursuit of their vocations, as in every other dangerous occupation, there develops a certain carelessness, which, at times, proves fatal.

As the extensive use of electricity is of comparatively recent date, only a few fatal injuries of this description have been published. The remarkable instantaneous death of a workman at the Health-Exhibit in London, and a similar death of a sailor on the Russian Imperial yacht "Livadia," led Sheild and Delépine to carefully note the post-mortem appearances in a case that came under their observation, which they have recorded.<sup>1</sup>

They found that the blood remained fluid, and the heart was empty. They believe that it is quite possible to recognize an electric burn, not alone from its gross appearance, but also from certain peculiar microscopical appearances that exist in the blistered integument. The human body is, fortunately, a poor conductor of electricity; and it has been said by certain electricians, that a wire (in circuit) transmitting enough electricity to light fifteen lamps may be handled with impunity, if the circuit is not broken. Occasionally, however, a "lamp-trimmer" brushes against the wire with a wet rubber coat, or touches it with damp hands, thus breaking the circuit, and receiving a severe shock and burn. Three cases of this character occurred in Boston last autumn, where men received an electric-shock in the above manner. They were rendered unconscious, fell to the ground, and sustained, in addition to the bruising from the fall, a severe shock and local burns.

The burns were peculiar in that the tissues were completely destroyed, the surrounding parts ana-

thetized, and that, at first, there was no local congestion of the surrounding skin; the reparative process was very slow and tedious.

The period of unconsciousness varied with the severity of the shock, which, in two of the cases, was recovered from in a few days.

Prof. George Buchanan<sup>2</sup> reports the case of a laborer, who was stunned and burned while working in the vicinity of a brush-light. The victim was engaged in handling a crane. By the wire of the light coming in contact with a chain attached to the crane, he was brought into the circuit. He was instantly "doubled up," his hands spasmodically grasped the chain, and in this position he was held for four minutes, until the lamp and chain were disconnected. The amount of shock was slight, but a full hour elapsed before consciousness returned; he then complained of a sensation of heat in the abdomen, and slight dimness of vision. There was a slight vesication on the hands, and at the point on the sole of the foot from which the current passed into the ground, a charred surface, two inches square, remained. It is certainly remarkable that so powerful a current could pass through the foot without causing more injury in its passage.

The treatment of these cases is essentially that adopted for severe nervous shocks, the burns being treated as their intensity may demand.

#### CALOMEL AS A DIURETIC.

A WRITER in the *Practitioner* has recently called attention to the diuretic properties of calomel. It has long been known that the addition of calomel to certain diuretics, as squills and digitalis, enhances the action of those drugs.

The researches of Jendrassick are exceedingly interesting in this connection. It appears that the diuretic action of calomel is not immediate, but manifests itself ordinarily the second, third, or fourth day, generally reaching its maximum the second day, and then declining. The amount of diuresis depends on two factors: the dose of calomel employed, and the abundance of the dropsical effusion existing at the time of administration of the medicament. In Jendrassick's first experiments, the dose of calomel was four grains, three or four times a day; but the diuretic effect is naturally proportional to the quantity of calomel absorbed. The best results are obtained when the first symptoms of mercurial poisoning show themselves: metallic taste, pyalism, mild stomatitis. If the dose of calomel exceeds a certain limit it becomes purgative, and is carried off in the stools.

Jendrassick found that when once diuresis was induced by calomel, it lasted a long time, often not ceasing till the dropsical swellings had entirely disappeared; nor were further doses of the mercurial needed to keep up the effect. Calomel was found to

<sup>1</sup> Brit. Med. Jour., March 14, 1885.

<sup>2</sup> Lancet, February 13, 1886.

be especially useful in the dropsies of heart disease, with a sound state of the kidneys; in these cases, it proved itself a better diuretic, even, than digitalis.

The conclusions of Jendrassick have recently been confirmed by Collins in the *Medical Chronicle*, who has found two or three five-grain doses of calomel an incomparable diuretic in dropsical effusions.

#### MEDICAL NOTES.

—The Forty-Ninth Congress appropriated \$10,000 toward the approaching International Medical Congress to be held in Washington next September. It is provided that the amount appropriated is to be expended under such regulations as the Secretary of the Treasury may prescribe, also that no part of the appropriation shall go toward paying the personal expenses of any delegate, and no money shall be expended except upon vouchers to be approved by the Secretary of the Interior. The sum asked for by the Committee of the Congress was \$50,000.

—The *Pall Mall Gazette* has, in its endeavors after a new sensation, hit upon a *plébiscite*, in which the public are invited to record a vote on the "best doctor" in general; the "best woman's doctor"; the "best dentist"; the "best surgeon"; the "best-managed hospital," etc. "The usual prizes of £2 and £1 will be given to the two competitors whose coupons agree most nearly with the opinions of the majority." Meantime, our English brethren of the profession are very highly and properly incensed at the impertinence of the whole scheme.

—The National Dental Hospital of England, and the College of Surgeons of Edinburgh, have both decided to admit women for the study of dentistry. None have yet presented themselves, although the *Dental Register*, issued by the Medical Council, contains the names of twenty-two women, of whom sixteen practice in England, two in Scotland, and four in colonies. These women were all registered as being in practice before the passage of the "Dentist's Act." Thus it is seen that women are not rushing into the profession with the celerity which might be expected from the throwing open of the doors.

—The *London Medical Record* refers to two cases of rumination in man, reported by Dr. Johaussen in the *Norsk Magazin for Lægevidenskaben*, November, 1886. Case I, was a man, aged twenty-five, unmarried. At sixteen years old he had sudden pains in the chest and diplopia, and remained ill three weeks; he had also headache, noises in the ears, and gastric pains. On recovery, he remarked that food returned into his mouth, especially when after a meal he worked in a forward attitude. The regurgitations became more frequent, and after a few years occurred after every meal. Remastication occurred with the same satisfaction as at first. All kinds of food returned, solids and liquids. The rumination begins within a few minutes to half an hour after a meal, and lasts an hour or two.

The regurgitation is involuntary, and the patient has never tried to prevent it. He has vomited only twice in his life, and then only after too much alcohol. During the last six months he has noticed a change in his condition—the food regurgitated has been accompanied by a bitter substance of disagreeable taste—and he is thinner. Case 2, was a young medical man in fair health.

—The United States Consul, at Buenos Ayres, in his dispatch to the United States Treasury Department, dated January 7, 1887, says: "Cholera still exists in this city, but it makes but little progress in assuming an epidemic form. The average number of cases per day since my last dispatch (December 6th), has not exceeded 22. The greatest number of reported cases in one day occurred on the 30th ultimo, when the number reached 57, since which time it has steadily declined, and on yesterday the number was only 11 in the city, with its population of 400,000 souls." He encloses a clipping from the Buenos Ayres *Standard*, from which it is learned that during the months of November and December there were 871 cases of cholera, and 474 deaths from that disease. The consul also states that "the disease has scarcely made its appearance except in closely packed tenement-houses (conventillos of the lower classes and in the suburbs, which are without pipe and hydrant water. In the interior of the Argentine Republic, however, the disease has assumed the proportions of an epidemic. In Rosario, during the last month, the daily number of cases averaged 60 to 100, while about 70 per cent. were fatal. In Mendoza the development of the disease has been most remarkable, and the population of that city of 20,000 has been almost decimated; and in the country districts the disease was equally fatal. In Tucuman the number of cases has on some days been as high as 500, of which about one-half proved fatal. Indeed, the panic at one time was so great that it was not possible to obtain the requisite assistance to bury the dead. In nearly all the other interior cities the disease has been very virulent and fatal, but, not confining itself to centres of population, it has ravaged entire provinces, and farmers (estancieros) and camp men have in great numbers succumbed to it. I am happy to say that with medical assistance, disinfectants, medicines, and a large supply of good nurses, the disease seems to have greatly abated during the last two weeks, and the hope is entertained that it will soon have run its course."

#### BOSTON.

—The death of Hon. Zenas M. Crane, the veteran paper manufacturer of Dalton, Mass., which occurred last week, is said to have revealed in him the anonymous contributor of \$10,000, which sum was received by the Massachusetts Eye and Ear Infirmary, five years ago in response to an appeal for subscriptions.

—The Directors of the West End Nursery and Infant's Hospital, 37 Blossom Street, urgently appeal for further aid to enable them to continue the work of

the institution. It is only through a still further response to the needs of the work, of at least \$3,000, that the thirty babies now under the shelter of the nursery can be cared for during the coming year, and aid extended to the other helpless infants who may demand the care of charity.

— A shocking accident occurred on the morning of March 14th, whereby a local train on the "Dedham Branch" of the Boston and Providence Railroad was precipitated through a broken bridge, a distance of twenty-five or thirty feet, into the road-way below, at a point in West Roxbury. Of nine cars, composing the train, five thus fell through between the abutments, where they were piled upon each other. About twenty-five persons were killed outright, and between eighty and one hundred injured, many of them very severely. Both the morgues in Boston were filled with the bodies of the dead, some of which were crushed so as to prevent identification, except by the dress and other personal effects. One woman had her head completely severed from the body, and another had the head cleft downwards, so that one side of the skull and face were removed. In these more extensive mutilations, comparatively little blood was lost. One of the cars took fire from the stove, but the flames were extinguished promptly, so that this so common source of danger and horror was removed from the case. The wounded were many of them taken at once to their homes, and five or six patients were admitted to the City Hospital and the Massachusetts General, each; while others were dressed in the out-patient departments, and sent to their homes.

#### NEW YORK.

— The New York State Academy of Veterinary Science and Comparative Pathology held a meeting March 4th, at which there was adopted a set of resolutions for presentation to the Legislature, in which it was stated that, while during the past year, 37,330 deaths occurred in New York, 16,000 of this number were in children under five years of age, and that the Academy believed that many of these deaths were caused by diseased meat and adulterated milk. There were only four milk inspectors and one meat inspector for the whole city, and the Academy regard the establishment of public abattoirs, when cattle could be examined before and after being slaughtered, and also of depots for the examination of milk. Furthermore, it was asked that the number of inspectors should be increased, and that every candidate applying for the position of inspector should first be examined by a commission consisting of one member from the Board of Health, another from the Microscopical Society, and the third from the State Academy of Veterinary Science. An amendment was added to the effect that every veterinary surgeon should be required by law to report to the Board of Health all cases of contagious disease that came under his notice among animals. At this meeting Dr. J. P. Gerrish read a paper

on tuberculosis in man and in cattle, and a general discussion of the subject followed.

— Governor Hill has at last, after nine months' delay, signed an order approving of the removal of General Shaler, President of the City Board of Health, by Mayor Grace; the General in the meanwhile having continued to hold his position at the head of the Department. It is said that he will adopt legal measures for re-installment in office, but it seems hardly likely that they will be successful, as the feeling is strong in the community that a man who has practically been twice convicted of bribery, although the jury did not agree at either trial, is not a fit person to hold one of the most important among the municipal offices.

— The Mayor is said to have appointed Mr. James C. Bayles, editor of *The Iron Age*, and an expert sanitary engineer of high repute, President of the Board of Health, in the place of General Shaler.

— The Crosby bill now before the Legislature providing for a single head for the New York Board of Health, has been modified, in accordance with the wishes of Mayor Hewitt, so as to establish a three-headed commission, the President of which is to be the executive officer of the Board, and to be solely responsible for the discharge of all duties of an executive nature. The other two commissioners are to be clothed with judicial and legislative powers, and to act in conjunction with the President in these functions.

— Dr. Lucien Damainville has been appointed a police surgeon to fill the vacancy caused by the death of Dr. Francis M. Purroy.

— The annual commencement of the Medical Department of the University of the City of New York, was held at the Academy of Music, March 8th, when degrees were conferred upon one hundred and fifty-one graduates. Gilmore's band furnished the music, and the address to the class was made by the Rev. John R. Paxton, D.D.

— The twenty-first annual commencement of the New York College of Dentistry was held at Chickering Hall, March 9th. The graduates numbered fifty-one, and were addressed by W. A. Parrington, Esq., Counsel for the Medical Societies of the State and County of New York.

— Dr. W. S. Searle, family physician of the late Henry Ward Beecher, has made a statement of his case in which he says that prior to the attack of apoplexy, Mr. Beecher was a remarkably sound man for his age. The only complaints to which he had ever been subject were tonsillitis, so-called bilious attacks, and hay-fever. So far as could be known, his only organic trouble was a very limited amount of chronic nephritis. Like all corpulent men, he labored somewhat under shortness of breath, and, without having made an examination, Dr. Searle feared that he might perhaps have some fatty degeneration of the

heart. But the powerful and persistent action of this organ during his late illness proved this apprehension to be unfounded, while no man living had more capacious or better innervated lungs than his. The seat of the apoplexy was apparently in the right hemisphere, involving the motor tract, and the rupture was no doubt one of a small vessel, as indicated by the gradual and progressive character of the paralysis which resulted. By Saturday morning the effusion had become sufficiently extensive to produce almost total loss of motion in the left arm, as well as to seriously impair the control of the corresponding lower extremity. Sensation, in these parts, however, was still intact; but the hæmorrhage went on, the paralysis became more and more marked, until it finally became entire in respect of both motion and sensation. Thus, on Sunday morning it was discovered that sensation was completely abolished in the whole left side of the face, and even in the conjunctiva. Subsequently the disease did not deviate from the usual course observed, and death resulted from the gradual failure of the vital powers.

— Dr. William Young has just got a verdict in the Superior Court of \$3,538.88, which is the full amount of the bill, with interest, which he claimed against the estate of the late Frederick P. James, a wealthy banker, for professional services rendered from December, 1881, to May, 1884, when Mr. James died. For fifteen years before his death, he was a paralytic, and had various complicating affections of the different organs. The defence claimed that the bill was too high, and that Dr. Young had profited in certain stock speculations through Mr. James's knowledge of the market; but it was proved that the doctor had paid him commissions as he would have done to any other broker.

— The sum of \$53,050 mentioned last week in connection with the Hospital Saturday and Sunday Collection was the entire amount collected, and the necessary expenses had to be deducted from this: Mt. Sinai Hospital received the largest share of any, \$5,727; St. Luke's the next, \$4,486; The Hospital for Ruptured and Crippled next, \$4,121; the Presbyterian next, \$3,625; and the German next, \$3,555. The other hospitals received amounts varying from \$1,929 (St. Mary's Free Hospital for Sick Children), to \$354, (the Home for Convalescents). The different amounts were assigned at a recent meeting of the Distributing Committee, which consists of Mayor Hewett, Morris H. Jesup, Jesse Seligman, Cornelius Vanderbilt and ex-Mayor Edward Cooper.

— The seventh anniversary of the Home for Convalescents was celebrated in Dr. Crosby's church on the 9th of March, when addresses were made by the Rev. Drs. Crosby and Ormiston and others. This is a most worthy charity, the object of which is to give temporary shelter and comfort to those who have been discharged from the hospitals not wholly recovered from the effects of illness, and it is the only insti-

tution of the kind in the city. It was opened in June, 1880, with six beds, and since that time it has received 775 inmates, for many of whom it has obtained employment on their full recovery. It now has a building in East 118th Street, provided with twenty beds.

### Miscellany.

#### A DEATH FROM CHLOROFORM IN TRENTON, NEW JERSEY.

A DEATH from the administration of chloroform is reported from Trenton, N. J., and the *Daily American* of Trenton, contains a communication from a resident physician in which the unfortunate occurrence serves as the text for a reiteration of sound doctrines as to the relative safety and desirability of ether and chloroform.

#### CARBOLIC ACID IN THE TREATMENT OF VOMITING, AND PAINFUL DYSPESIA.

THE well-known anæsthetic and analgesic effects of carbolic acid were first utilized in the treatment of vomiting by Dr. Edward Garraway,<sup>1</sup> of England. He found drop doses of carbolic acid in some suitable vehicle to allay as by magic hysterical vomiting and the vomiting of pregnancy. Drs. Dixon and Beran afterwards employed the same remedy in the same dose for the relief of some forms of painful dyspepsia; the latter associated with it a certain proportion of the *acetum opii* (English black drops).

Recently, Pacholier<sup>2</sup> has essayed the combination recommended by Dr. Beran, in obstinate cases of chlorotic vomiting, in the vomiting of pregnancy, in gastralgia from dilatation of the stomach, and from anæmic, nervous causes; and he reports remarkable success from this palliative treatment of these affections. His formula is as follows:

Pure deliquescent Carbolic Acid,	1 part.
English Black Drops,	3 parts.
Mix. Dose — four drops in a little sweetened water three times a day, a few minutes after meals.	

#### POISONING FROM A VAGINAL INJECTION OF SUBLIMATE.

THE *Therapeutic Gazette* publishes the following instructive case, which originally appeared in the *Centralblatt für Gynäkologie*, by Fleischmann, of Prague. A perfectly healthy primipara, aged seventeen, exhibited no symptoms of kidney disease, or of any other complication of pregnancy. To disinfect the vagina before labor, two douches of 1 to 2,000 solution of sublimate were given, one before and one after examination by a midwife. It was noticed that a small amount of bloody mucus was expelled from the vagina after the douches. In a few hours abdominal pain, diarrhœa and a rise of temperature occurred, all the symptoms and lesions of mercurial poisoning developed, nephritis, salivation and continued diarrhœa, and, after giving birth to a living child, the patient died in coma on the ninth day after the douches were

<sup>1</sup> British Medical Journal, March 13th, 1869.

<sup>2</sup> Bulletin Gen. de Thérapeutique, February 15th, 1887.

given. The pathological anatomical diagnosis made at the autopsy was "corrosive sublimate intoxication, acute nephritis, dysentery, stomatitis and pharyngitis in the stage of ulceration, parenchymatous degeneration of heart and liver, lobar and lobular pneumonia bilateral, acute cystitis."

#### INSANITY AS A MEASURE OF BRAIN-FAILURE.

DR. T. S. CLOUSTON in reading his annual report to the corporation of the Royal Edinburgh Asylum for the Insane recently, said that so far as society was concerned, the chief significance of the amount of definite mental disease that occurs every year in a community, consists in the fact that it is the most measurable and ascertainable of all the brain failures. It was the one sort of mental wreckage that was so absolute as to admit of tabulation and classification. It was not necessarily different in kind from many of the mental causes of business failure, of moral incompetence, of social disaster, or of many kinds of non-success in life. It was merely different in degree. The failures of energy and power of work at critical times, the paralysis of effort in study or action, the "unaccountable" changes of purpose, or of emotional condition that have such far-reaching effects in life, might all arise from brain-failures allied to insanity, but neither society nor science as yet had any means of estimating the number or the causes of such catclysms. Instability of brain took many forms. The present humane methods of healing mental diseases might at first have the same general effect as modern improved sanitation and care for the diseased, the weak, and the young of delicate constitutions, who would formerly have been allowed to die, and so be done with. At present, the weakly in mind and body are kept alive by every means, and sedulously cared for. There was no doubt that the evolutionary law of the survival of the fittest was thus opposed. If they had no indication from science that weak and unstable brains could become strong and stable in succeeding generations under favorable conditions of life, and that brains with one or two weak points might have in other directions elements of strength of the greatest service to humanity, but for such indications a great part of what modern philanthropy and medicine were doing for the insane might not be thought of unquestionable benefit to mankind.

#### THE INEQUALITY OF THE PUPILS IN VARIOUS DISEASES.

THE *Lancet* (January 15) quotes from *Vrach* a number of observations made by Dr. Pasternatski, who has been working in Professor Chudnovski's clinic in St. Petersburg, on the inequality of the pupils in various diseases, in pursuance of a suggestion made by his chief in a work on the methods of examining medical patients, published in 1883, in which he expressed an opinion that careful examination of the pupils would lead to interesting results. Dr. Pasternatski examined a number of methods which have been proposed, but did not find any of them suitable for his purpose, and ultimately, a much simpler plan, suggested by M. Follin, was adopted. This consists in

bringing a catheter-gauge card close to the eye, and comparing the size of the pupil with the apertures in the card. By this means, the size of the pupil, in millimeters, can be ascertained with a degree of accuracy sufficient for the purpose. It is important to make the observations in the shade, for the difference, when there is any, between the diameters of the pupils increases as the light is diminished. The best method of conducting the examination is to close the eye which is not being observed, for this causes a slight increase in the diameter of the pupil of the latter, as was indeed remarked by Hippocrates. It was found, for example, in a case in which this was tested, that when both eyes (being in the shade) were fixed on an object at a distance, the diameter of the right pupil was  $5\frac{1}{2}$  mm., and that of the left 6 mm.; when, however, the eye not under examination was covered up, the diameters increased to 6 mm. and  $6\frac{3}{8}$  mm., respectively. As to the diseases in which inequality of pupils has been observed, Dr. Pasternatski quotes a number of cases mentioned by continental physicians: also one of aneurism shown by Professor Gardiner to the Edinburgh Medical Society, as well as two reported by Professor Finlayson in the *Lancet* of January 3d, 1885, in both of which aneurisms were found at the necropsy. His own observations gave the percentage of cases in which inequality was found in various diseases as follows: Croupous pneumonia 85, heart diseases and aortic aneurisms 61, pleurisy 52, chronic catarrhal pneumonia 38, acute articular rheumatism 25, catarrh of the respiratory passages 25, scurvy 16, typhus 16, recurrent typhus (relapsing fever) 15, abdominal typhus (enteric fever) 13. Inequality of pupils was also found in half the cases of catarrhal and hepatic jaundice and renal colic. The largest percentage occurred in croupous pneumonia, and study of the cases showed that the position and stage of development of the disease has a remarkable effect upon the pupils. At the very commencement, the pupil on the same side as the affected lung is, as a rule, larger than the other. The difference generally increases with the lung inflammation, reaching its height on the third, fourth, or fifth day; before the crisis the difference decreases, sometimes even disappearing. Afterwards, during the stage of resolution, a difference is again manifest, the pupil on the affected side being now contracted. Not only do the pupils in pneumonia differ in size, but also in sensibility to light. Speaking generally, the author's observations lead him to believe that inequality of pupils is most frequently met with in those internal diseases which not only affect the system generally, but which, like pneumonia, pleurisy, and hepatic and renal colic, are definitely localized as well. It is also very usual in heart diseases and aneurism, but comparatively rare in curvy and infectious diseases, such as typhus, and when it does occur in these, it is generally consequent on some complication.

#### Correspondence.

##### REMOVAL OF FOREIGN BODIES IN THE CESOPHAGUS, ETC.

SMITHSBURG, MD., February 12, 1887.

MR. EDITOR.—In a recent JOURNAL I read an account of some cases of foreign bodies in the cesophagus and also

of their treatment. These cases brought to mind some experiences of my own, the relation of which may be of some value to the profession.

In one case a lady allowed a very crooked pin to be caught in the upper part of the pipe. I was called at night, and after learning the situation, I procured an elastic switch ten inches long, secured a small piece of sponge to one extremity by notching the twig and then wrapping the sponge where it enveloped the notched end of the twig with strong cord. Then I sewed the sponge full of loops of hair from my horse's tail. This improvised instrument I passed down to the pin, continually rotating it, both in introducing and withdrawing. The pin was caught in the loops.

In another case, a piece of bone, which we call spare-rib, was accidentally swallowed, because the patient having no teeth bolted his food. The bone lodged in the lower part of the esophagus. At first he could not swallow water but later other soft substances passed down. He came to me about the third day, complaining of pain, worse when swallowing, and of inability to swallow food. As it was butchering time I readily procured some raw fat pork. This I cut into small bits, having a piece of skin attached to each. The whole when together making a bulk as large as a hulled walnut. Each piece of pork was attached to a piece of cord exactly fourteen inches long. These he swallowed one after the other. After they were all down I brought the ends of the cord strings evenly together so that I might know that the meat was massed below. Then I made traction which provoking an effort at disgorgement, I speedily recovered my pork but the bone was not with it. But as he could and did swallow

mouthful of dry bread soon after, I concluded that the dislodged bone had dropped into the stomach, while the pork held the esophagus open.

Is it not possible to dislodge formidable foreign bodies from the esophagus by swallowing bits of compressed sponge with the attached cords carefully numbered? The expansion that would follow their wetting would so stretch the pipe as to loosen the foreign body and permit it to drop into the stomach. An India-rubber bladder attached to a tube of the same or of metal could be passed down and be blown out with air or with water from a sufficiently elevated reservoir.

I have a case of Bright's disease, and the patient has had an occasional attack, something like epilepsy, and some difficulty of vision in which he could only see distinctly the lower half of an object. He is not dropsical. One evening he came into his room and lay down. After apparently sleeping for an hour he was discovered to have one of his "spells" (insensibility without spasm) and I was sent for. When I arrived, half an hour later, he had partially recovered consciousness and was rubbing the soles of his feet energetically. When any one else attempted it he would exclaim that they hurt him. Thinking there might be muscular spasm I tried grasping the foot tightly but it hurt him so severely that I had to desist. After a while, however, he became easier and I left. At my next visit on the following morning I found two large blisters occupying the sole upon each heel, located alike and almost alike in size, shape and extent. I should like to have the cause of their occurrence explained.

Very truly yours,

E. TRACY BISHOP, M.D.

#### REPORTED MORTALITY FOR THE WEEK ENDING MARCH 5, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from					
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Croup.	Measles.	
New York . . . . .	1,481,920	773	328	20.54	20.41	1.82	10.01	3.25	
Philadelphia . . . . .	993,801	454	172	11.44	14.74	1.10	3.73	1.76	
Brooklyn . . . . .	745,108	284	111	17.15	15.40	.35	9.80	2.10	
Chicago . . . . .	745,108	—	—	—	—	—	—	—	
St. Louis . . . . .	420,000	—	—	—	—	—	—	—	
Baltimore . . . . .	417,000	144	44	8.97	13.11	1.38	2.76	.69	
Boston . . . . .	400,000	187	57	12.76	19.61	.53	6.36	1.59	
New Orleans . . . . .	242,750	90	38	14.14	11.11	3.03	3.03	2.02	
Buffalo . . . . .	225,000	—	—	—	—	—	—	—	
District of Columbia . . . . .	210,000	92	30	21.60	2.16	10.86	4.32	—	
Pittsburgh . . . . .	210,000	86	47	18.56	24.36	1.16	2.32	8.12	
Montreal . . . . .	210,000	—	—	—	—	—	—	—	
Milwaukee . . . . .	170,000	46	20	12.02	4.34	—	6.51	—	
Providence . . . . .	121,000	49	18	12.24	4.08	—	4.08	4.08	
Richmond . . . . .	100,000	44	17	—	2.27	—	—	—	
New Haven . . . . .	80,000	23	4	—	26.10	—	—	—	
Nashville . . . . .	65,000	—	—	—	—	—	—	—	
Charleston . . . . .	60,145	31	10	3.23	12.92	—	3.23	—	
Portland . . . . .	40,000	14	4	21.42	21.42	—	14.28	—	
Worcester . . . . .	68,383	22	13	13.63	13.65	—	9.10	4.55	
Lowell . . . . .	64,051	29	11	24.15	20.70	6.90	6.90	—	
Cambridge . . . . .	59,660	19	9	10.52	26.30	—	5.26	5.26	
Fall River . . . . .	56,863	22	10	27.30	9.10	9.10	13.65	—	
Lynn . . . . .	45,861	19	4	5.26	5.26	—	5.26	—	
Lawrence . . . . .	38,825	8	1	—	—	—	—	—	
Springfield . . . . .	37,577	11	2	18.18	—	—	—	—	
New Bedford . . . . .	33,383	20	10	5.00	15.00	—	5.00	—	
Somerville . . . . .	29,992	11	3	36.36	27.27	—	—	18.18	
Salem . . . . .	28,084	6	1	—	16.66	—	—	—	
Holyoke . . . . .	27,894	—	—	—	—	—	—	—	
Chelsea . . . . .	25,769	6	2	16.66	16.66	—	16.66	—	
Taunton . . . . .	25,674	9	2	11.11	—	—	11.11	—	
Haverhill . . . . .	21,796	10	3	—	50.00	—	—	—	
Gloucester . . . . .	21,713	9	3	11.11	—	—	—	—	
Brockton . . . . .	20,783	2	1	—	—	—	—	—	
Newton . . . . .	19,759	7	3	14.28	14.28	—	—	—	
Malden . . . . .	16,407	3	0	—	33.33	—	—	—	
Fitchburg . . . . .	15,375	6	1	33.33	—	—	—	—	
Waltham . . . . .	14,609	6	0	—	33.33	—	—	—	
Newburyport . . . . .	13,716	4	0	—	—	—	—	—	
Northampton . . . . .	12,896	10	4	10.00	—	—	—	—	

Deaths reported 2,567, under five years of age 984; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 357, acute lung diseases 408, consumption 346, diphtheria and croup 166, measles 59, diarrheal diseases 41, typhoid fever 40, scarlet fever 28, malarial fevers 15, cerebro-spinal meningitis 14, whooping-cough 10, erysipelas 10, puerperal fever seven, small-pox (New York five, Brooklyn two), seven. From typhoid fever, Philadelphia 15, New York five, Pittsburgh four, Lowell three, Brooklyn, Boston, New Orleans, District of Columbia and Somerville two each, Baltimore, Fall River and Newton one each. From scarlet fever, New York 16, Philadelphia, Brooklyn and Boston three each, Newport, Taunton and Milwaukee one each. From malarial fever, New York, six, New Orleans four, Brooklyn two, Philadelphia, Baltimore, and District of Columbia, one each. From cerebro-spinal meningitis, New York, five, Philadelphia, and Fitchburg two each, Baltimore, Pittsburgh and Springfield one each. From whooping-cough, New York three, Brooklyn two, Philadelphia, Boston, Baltimore, District of Columbia and Pittsburgh one each. From erysipelas, New York, Baltimore and District of Columbia two each, Brooklyn, Providence, Gloucester and Northampton one each. From purpura fever, Brooklyn and Milwaukee two each, Portland, Providence, and Springfield one each.

Cases reported in Boston: measles 51, diphtheria 51, scarlet fever 25, and typhoid fever five. In Milwaukee, scarlet fever 29 and diphtheria 14, Newport, 10 cases of measles.

In the 22 cities and greater towns of Massachusetts, with a population of 1,177,418 (population of the State 1,941,465) the total death-rate for the week was 18.55 against 20.68 and 20.52 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,000, for the week ending February 19th, the death-rate was 21.1. Deaths reported 3,736; infants under one year of age 874; whooping-cough 125, measles 107, scarlet fever 47, diarrhoea 36, diphtheria 32, fever 23, small-pox (Newcastle) one.

The death-rates ranged from 17.2 in Derby to 29.6 in Preston; Birmingham 23.3; Blackburn 22.3; Bradford 20.2; Hull 18.6; Leeds 20.7; Liverpool 25.8; London 19.3; Manchester 28.6; Newcastle-on-Tyne 24.3; Nottingham 18.4; Oldham 22.2; Sheffield 24.2; Sunderland 22.1.

In Edinburgh 23.8; Glasgow 27.1; Dublin 35.3.

The meteorological record for the week ending March 5, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.		Relative Humidity.			Direction of Wind.		Velocity of Wind.		State of Weather.		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.
Saturday, Mar. 5, 1887.														
Sunday, ... 27	29.317	31.0	41.0	22.0	82.0	53.0	59.0	65.0	W.	W.	W.	21	23	28
Monday, ... 28	29.842	16.0	22.0	13.0	50.0	45.0	47.0	47.0	W.	N.W.	N.W.	30	26	11
Tuesday, ... 1	30.108	29.0	26.0	10.0	72.0	31.0	36.0	46.0	W.	S.W.	W.	14	13	6
Wednesday, ... 2	29.867	35.0	45.0	19.0	50.0	74.0	87.0	70.0	S.	S.W.	W.	8	10	12
Thursday, ... 3	30.286	28.0	40.0	24.0	32.0	37.0	46.0	45.0	N.	N.	N.	20	14	10
Friday, ... 4	30.435	27.0	24.0	20.0	73.0	42.0	50.0	55.0	N.	W.	N.W.	9	7	11
Saturday, ... 5	30.770	18.0	28.0	11.0	70.0	56.0	70.0	65.0	N.	E.	S.E.	12	8	17
Mean, the Week.	30.096	25.0	34.0	17.0				56.0						

1 O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 5, 1887, TO MARCH 11, 1887.

ALDEN, C. H., major and surgeon. Ordered for duty at United States Military Academy, West Point, N. Y., August 28, 1887. Relieving Lieutenant Colonel Andrew K. Smith, surgeon, who will then report by letter to the surgeon general. S. O. 52, A. G. O., March 5, 1887.

CARTER, WM. F., captain and assistant surgeon. Granted leave of absence for one month on surgeon's certificate of disability. S. O. 25, Department of Texas, February 24, 1887.

McCRURY, Geo., captain and assistant surgeon. Leave of absence extended one month. S. O. 52, A. G. O., March 5, 1887.

JOHNSON, R. W., captain and assistant surgeon. Ordered for temporary duty at United States Military Academy, West Point, N. Y. S. O. 51, A. G. O., March 4, 1887.

EDIE, GUY L., first lieutenant and assistant surgeon. Granted leave of absence for one month to take effect about March 1, 1887. S. O. 27, Department of Texas, February 28, 1887.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MARCH 12, 1887.

BRADLEY, GEORGE P., surgeon. Detached from Naval Hospital, Philadelphia, Pa., and granted six months' leave.

STERLE, JNO. W., passed assistant surgeon. Ordered to Naval Hospital, Philadelphia, Pa., without delay.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE FIVE WEEKS ENDING MARCH 5, 1887.

GUITERAS, JOHN, passed assistant surgeon. Granted leave of absence for twenty-one days, February 28, 1887.

PETTUS, W. J., assistant surgeon. To proceed to Charleston, S. C., for temporary duty, February 28, 1887.

#### OBITUARY.

##### CHARLES B. UNDERHILL, M.D.

Dr. C. B. Underhill, of Salda, Col., died of consumption at his mother's residence on Cutter Street, Somerville, Mass., in February. He was a graduate of Harvard College, in the class of 1877 and of the Medical School in 1881. He served eighteen months as Medical House-Officer in the Boston City Hospital. Close application undermined a not very strong constitution, and he went to Colorado for his health. The climate prolonged his life, but could not cure the disease, and he returned home to die, after spending five years in the practice of his profession. He was thirty-one years of age and unmarried. As a physician he was successful, and was beloved by all who knew him.

#### BOOKS AND PAMPHLETS RECEIVED.

A Case of Bone Reconstruction. Dr. H. G. Wetherill. Trenton, N. J., 1887.

A Synopsis of the Nature and Effects of Alcohol and Narcotics. By L. H. Luce, M.D. Boston, 1887.

The Forty-Eighth Annual Report of the Superintendent of the Boston Lunatic Hospital, to the Board of Directors for Public Institutions, for the Year ending December 31, 1886. Boston, 1887.

The Functions of the Brain. By David Ferrier, M.D., LL.D., F.R.S., J.R.C., Lond., etc. Second Edition. Re-written and enlarged with numerous illustrations. New York: G. P. Putnam's Sons. 1886.

Periostitis. Delivered at the College of Physicians and Surgeons, Chicago, Ill. By N. Senn, M.D., (Milwaukee, Wis.), Professor of the Principles and Practice of Surgery and Clinical Surgery. Reported by William Whitford. 1886. (Reprint.)

Practical Pathology: An Introduction to the Practical Study of Morbid Anatomy and Histology. By John Lindsay Stevens, M.D., Assistant to the Professor of Clinical Medicine in the University of Glasgow. London: Macmillan & Co. 1887.

Contributions to Science and Bibliographical Résumé of the Writings of R. W. Shufeldt, M.D., Captain, Medical Department, United States Army; Member of the Philosophical, the Anthropological, the Biological, and the Entomological Societies of Washington, etc. By their Author. 1887.

## Original Articles.

SUBSEQUENT HISTORY OF A PATIENT WITH AN ABDOMINAL TUMOR DIAGNOSTICATED AS FLOATING SPLEEN IN 1877.<sup>1</sup>

BY F. C. SHATTUCK, M.D.,

Visiting Physician Massachusetts General Hospital, etc.

In June, 1878, I had the honor of reading at the annual meeting of the Massachusetts Medical Society, a paper on "Floating Spleen," a paper which was published in the transactions of the Society for that year, and also in the *Boston Medical and Surgical Journal*. I was led to choose this subject by encountering a case which I believed to be of that nature. Under a lively sense of the fact that it is well for us to report our mistakes and bad cases as well as our triumphs or good cases, I will first very briefly recall the leading facts in the patient's previous history, and then lay before you in more detail his subsequent history, with an account of the autopsy. In July, 1877, I saw for the first time, a well-built young man of eighteen, a baker by trade. A fortnight before he went to bed in usual health, was awakened in the night by severe pain in the left hypochondrium, and then discovered that he had a tumor in his abdomen. After careful and repeated examination I decided that the tumor was an enlarged, displaced, and movable spleen, an opinion concurred in by a professional friend in whose knowledge and skill I had and have the greatest confidence, this gentleman not knowing my opinion until his own was formed and expressed. The possibility that the tumor was a kidney was entertained and rejected. The patient returned immediately to his work, at which I found him busy nearly a year later, when I looked him up and examined him again while preparing my paper.

In July, 1886, never having seen the patient in the interval, I found him in my ward at the Massachusetts General Hospital. He said that four or five years ago he had had an attack of acute pain in the left side with stoppage of water and subsequently hæmaturia. This recurred several times, but there had been no attack for a year and a half. June 17th, he strained himself, as he thought, lifting a barrel of flour, and had been unable to work since, except for a week about a fortnight after his alleged injury. He reported himself as being perfectly well except for dull pain in the lumbar region and left side. The nutrition was very fair. The abdominal tumor showed no marked change since I saw him eight years before, but the axillary, inguinal and cervical glands were somewhat enlarged, and the liver seemed to be uniformly enlarged, the lower edges extending to the umbilicus and across the median line. No nodules could be felt. The urine contained a slight trace of albumen and a few casts; the quantity and specific gravity were normal. That there was something more in the case than there had been was evident enough, but I was unable to reach any diagnosis. He declined in strength, but August 10th, it was found necessary to discharge him to make way for cases of typhoid fever which were coming in rapidly, and at the same time our beds were diminished in number by changes in some of the wards.

August 16th, he was admitted into the City Hospi-

<sup>1</sup> Read before the Boston Society for Medical Observation, February 7, 1887.

tal, the records of which as bearing on his case are most kindly placed at my disposal by Dr. A. L. Mason. He still complained of pain in the back, and of increasing weakness. The legs had become somewhat "numb," and his control over them was imperfect. For the last few days the micturition, previously normal, had been "delayed;" no fever, urine as before. The patella reflexes were increased and ankle clonus was marked; on the outer aspect of the right thigh there was a circumscribed area of diminished sensibility. In the left back, about three inches below the angle of the scapula, was a smooth rounded tumor two inches in diameter, not movable, but adherent to the skin, tense, elastic, fluctuating. (?)

August 21st. Paraplegia was now almost complete and the reflexes were less marked. At times there was retention of urine, the bowels were constipated, there was moderate fever.

August 31st. He passed per urethram about a pint of clear blood. Numerous clots formed in the bladder and were voided with difficulty by the aid of a large catheter. Expressed himself as "perfectly comfortable." The hæmaturia continued several days; there was incontinence of urine and feces. The hepatic swelling increased, and the edge of the organ was now to be felt two inches below the level of the umbilicus, and in the flank just above the crest of the ilium. The other tumor was unchanged.

September 11th. Several bed-sores had developed over the lower back. He was losing flesh and strength rapidly, though he had a fair appetite and was still "perfectly comfortable."

October 9th. He died, having steadily failed without the appearance of any new symptoms.

AUTOPSY, twenty-one hours after death, by Dr. Gannett.

*Body.* Medium size, fairly well developed and nourished. Much emaciated. Rigor mortis present. Anterior abdominal wall green.

*Head.* In posterior part left of the parietal bone about two cm. from median line was a circular loss of substance about two cm. in diameter. This was filled with a soft grayish mass, growing in the diploe and projecting both internally and externally about three mm. The brain showed nothing remarkable beyond pallor.

*Spinal Column, etc.* Spinal canal, opposite last dorsal and first lumbar vertebra, was about one-half normal size, the lumen being diminished by a growth from the vertebra into the canal. Spinal cord, corresponding to this point, was softened, more opaque and yellow; all distinction between gray and white matter being lost.

Section through last two dorsal and first two lumbar vertebra showed that the marrow was almost entirely replaced by a soft, red, and almost gelatinous new growth.

In left vertebral groove, corresponding to these vertebra, was an ovoid mass, rather larger though not quite so wide as the palm of the hand, and about twice as thick, connecting with the above described vertebral growth.

*Ribs.* Similar nodules of size of large plums on third and fifth ribs in front on right side, and on fifth right rib behind, close to vertebral column, all growing from the medulla of the bone.

*Heart and lungs* were not remarkable.

The *spleen* was normal in size and weight; it lay

between the ninth and eleventh ribs, with its anterior border two inches behind the costo-articular line. The gastro-splenic omentum was short; when strong traction was made downward and forward, the spleen could be moved two inches in front of the costo-articular line, and below the eighth cartilage.

The *left kidney* was represented by a three-lobed mass, about the size of the two closed fists, placed one upon the other. The peritoneum covered not only the anterior surface, but also the posterior surface, like a meso-colon, making the kidney freely movable, so that it could be brought as far as the median line.

On section, the upper portion was found to be made up of a two-lobed, solid mass of a grayish, firm substance, in which yellow and more opaque streaks and specks could be seen. The lower half was a cavity, the size of the fist, with irregular, shreddy walls, having grayish, somewhat translucent and rather friable masses hanging from its inner surface. Outside of this, laterally, was a thin layer of renal substance, in which the distinction between cortex and pyramids could still be made out, though with difficulty, this tissue being quite pale.

The pelvis of the right kidney was deeply injected and thickened; it contained considerable calcareous material. The kidney showed several vertical purulent lines.

The *bladder* showed thickening on pigmentation of the mucous membrane.

The *right ureter* had an injected mucous membrane.

The *liver* measured transversely, twelve; vertically, thirteen; antero-posteriorly four inches; weighing a little less than ten pounds. It was thickly studded with gray and red nodules, varying in size from that of a pea to that of a man's fist.

**PATHOLOGICAL DIAGNOSIS.** *Cancer* of skull, vertebrae, ribs, kidney, liver. *Myelitis* from pressure. *Cystitis*. *Pyelo-nephritis*.

#### SUMMARY.

A muscular and well-nourished man of twenty-seven has, for at least nine years, had an abdominal tumor, thought to be a movable spleen. He has worked steadily at a laborious trade, and had no symptoms which could possibly be referred to his tumor, except several transitory attacks of hæmaturia. Immediately after lifting a barrel of flour, he is disabled by pain in the back, soon followed by progressive loss of strength, and later, of flesh; enlargement of the liver and superficial lymphatic glands; an elastic tumor below the left scapula; fever, acute myelitis, hæmaturia, and death from exhaustion within less than four months from the time when he was in full activity and apparent health.

The autopsy showed cancer of the skull, vertebrae, ribs, kidney, and liver; myelitis from pressure, cystitis, pyelo-nephritis. The spleen was perfectly normal in size and position.

My original diagnosis was, therefore, entirely wrong. The abdominal tumor was the left kidney, not the spleen. It will be noted that, at the autopsy, Dr. Gannett—to whom I wish to express my great obligation for his careful report of the case—found the peritoneum stretched, and investing the whole kidney, like a meso-colon.

Movable or floating kidney is much more common in women than in men: out of ninety cases collected by Ebstein, eighty-two were females. In congenital

malpositions of the kidney, it is usually the left which is anomalous, the organ being fixed, but lying lower down than the normal seat. It is thought that movable conditions of the kidney are acquired, and in more than two-thirds of these it is the right kidney which becomes displaced.

There are two questions suggested by a consideration of the case, above reported, to neither of which can a definite answer be given: In the first place, how long was the kidney out of place before I first saw the patient, in 1877? It is, of course, impossible that such elongation of the peritoneum came on suddenly. Tight-lacing was certainly not a factor in causing the dislocation. The occupation of the patient was a laborious one, but I do not know how long he had followed it before the tumor was discovered. As he was only eighteen at the time, it could not have been very long. The second question is: When did this cancerous growth begin? I took no measurement of the tumor when I first saw it, but it is my impression that it was larger than a normal kidney. I considered it to be an enlarged, as well as a floating spleen. It may be that, from twisting of the ureter, the pelvis of the kidney became early somewhat dilated. But to what were the attacks of hæmaturia, recurring between five and one and a half years before his death, due? May they be attributable to acute and temporary strangulation or stoppage of the ureter? When the patient once began to go down hill he went very rapidly; but he considered himself in perfect health up to the time of his supposed strain from lifting the barrel of flour.

#### REPORT ON THE PROGRESS OF SURGERY.<sup>1</sup>

BY H. L. BURRELL, M.D., AND H. W. CUSHING, M.D.

#### COLOTOMY.

SONNENBURG<sup>18</sup> has relieved patients suffering from carcinoma of the rectum by operating in the following manner. The abdominal wall was incised in the linea alba, the peritoneal cavity opened, and the colon divided transversely above the point of disease. The lower end was then closed by suture, and dropped back into the abdominal cavity. The superior end was brought forward and fastened into the median incision, below the umbilicus. The advantages claimed for this method are that the surgeon has an opportunity to examine the intestine in regard to the exact nature of the neoplasm, its situation or size, and to change the plan of operation to a more advantageous one, if necessary. The intestine is opened at a known point, and as low as possible, so that solid dejections are voided from the artificial anus. The contraction of the recti muscles serves to constrict the artificial opening, and act as a substitute for a sphincter. The anus, in this position, is more conveniently situated for the patient than in the Amussat or Littré operation. Also, the irritation, pain, ulceration, decomposing discharges, and other complications arising from access of feces to the intestinal pouch, situated between the seat of stenosis and the artificial opening, is avoided. In case the rectum is wholly occluded, suturing the lower end of the divided intestine into the wound in the linea alba is recommended. This

<sup>1</sup> Concluded from page 258.

<sup>18</sup> Berl. Klin. Wochenschr., December 6, 1886.

gives an opportunity to keep this portion clear from collecting mucus or discharges.

#### HEPATIC SURGERY.

At the last annual meeting of the British Medical Association,<sup>19</sup> this subject was considered by Dr. Harley, Mr. Thornton, Mr. Willett, Mr. Marsh, and Mr. Tait. Although the contributions are fragmentary in that they deal with a new field of surgery, yet there is much of interest in their papers. Dr. Harley reported a "Case of Hepatitis, with Dropsy, in which Hepatic Phlebotomy was performed."<sup>20</sup> The operative procedure consisted of piercing "the upper part of the liver from right to left with an eight-inch trocar, approximating, in size, a No. 2 to 3 English catheter," the hope being that, during its transverse penetration, that one or more veins or arteries might be wounded. Twenty ounces of hepatic blood were removed, with the most salutary effects, the patient recovering completely from the dropsy and hepatitis. Dr. Harley simply seals the abdominal puncture with sticking-plaster, and bandages the abdomen tightly, with the idea of bringing the wound in the liver's capsule into contact with the abdominal parietes.

Mr. Thornton records three cases of hepatic surgery; and says that he "believes that all diseases of the liver which are within the surgeon's reach may be, and should be, treated on the same lines that would guide us in the treatment of similar diseases in other situations, and with every prospect of equally satisfactory results."

Mr. Willett reports a case of complete obstruction of the common duct, where cholecystotomy was performed, with marked improvement. The question of whether external drainage of the gall-bladder or establishing an entero-biliary fistula is the better surgery, is discussed by Mr. Willett, and he considers the latter operation indicated. "There seem to be but two sites where naturally-formed entero-biliary fistulae occur. In nearly thirty cases collected by Murchison, in about two-thirds the fistulous communication was located in the duodenum, and one-third in the colon.

Mr. Willett elects the colon, but discusses fully the advantages of a duodeno-biliary fistula. Mr. Marsh simply records a case of abscess of the liver.

Mr. Lawson Tait reported seven cases of exploratory incision, with one death; thirteen cases of hepaticotomy, with no deaths; and thirty cases of cholecystotomy, with no deaths.

#### PENETRATING GUN-SHOT WOUND OF THE ABDOMEN, INVOLVING THE LIVER; INTRA-PERITONEAL HÆMORRHAGE; LAPAROTOMY.

J. W. Heddens<sup>21</sup> reports a case, where, believing that there was a hæmorrhage into the abdominal cavity, he performed laparotomy. The course of the bullet was traced to the liver; a piece of the patient's vest was found in the peritoneal cavity and removed. The wound was dressed antiseptically, and a prompt recovery ensued.

#### SURGICAL INTERVENTION IN CERTAIN CASES OF BILIARY CALCULUS.

T. Thiriar,<sup>22</sup> in an admirable paper on cholecystec-

tomy, states that Prof. Wehenkel, of Brussels, in six thousand autopsies failed to find any gall-stone in the liver; hence the gall-bladder is almost a necessity in their formation; consequently for the radical cure of this affection it is necessary to remove this viscus. Three cases are related (Langenbuch one, Thiriar two) all of which recovered. Seven cases, five by Langenbuch, two by Thiriar, are mentioned, in none of which cases was death referable to the operation itself. Thiriar claims that cholecystectomy is the rational operation, and considers that the indication for operating is a frequent recurrence of severe biliary colic which has resisted medical treatment. His method of operating is as follows: Great care is taken about the temperature of the room, baths and the antiseptic preparation of the patient. Previous to the operations one to two gms. of laudanum, and two to four gms. of chloral are given by enema. The spray is used and full antiseptic precautions. The incision follows the right rectus abdominis, the muscular fibres of which are cut transversely three finger's breadth below the false ribs. After adhesions with the colon are broken down, the gall-bladder is seen. The cystic duct is then isolated, ligatured with silk in two places and divided. The margins of the opening are sewed together with fine sublimated silk. The gall-bladder is removed and the abdominal wound closed.

#### GALL-STONE ILEUS.

An exhaustive paper by Wising,<sup>23</sup> a review of which has recently been published,<sup>24</sup> gives many interesting and valuable data on this subject. Wising reached his conclusions from 51 cases, 41 of which were collected by Leichtenstern from among 1,541 cases of ileus. Usually it is caused only by exceedingly large calculi; but can occur when a smaller calculus becomes impacted in a faecal mass, or when there is a previous intestinal contraction. This class of stones usually enter the intestine through a fistula resulting from a perforating ulcerating process. It may escape into the duodenum, colon, or stomach. The seat of obstruction in 33 cases occurred 12 times in the jejunum and 21 times in the ileum, especially in the lower half.

As to clinical symptoms in cases of perforation from the gall-bladder to the intestine severe suffering is by no means invariably present. Only in one-third of the cases does severe pain in the hepatic region occur. Icterus is not a regular accompaniment of perforation (8 cases in 51). Symptoms of ileus appear soon after the stone has entered the intestine, but a diagnosis of ileus from other causes is not possible. Pain may be very variable, sometimes disseminated, sometimes more localized. Tympanites and character of vomitus depend on the seat of obstruction: when low down faecal vomiting is a late symptom. A tumor is rarely felt (5 cases in 51). Of the 51 cases 38 ended fatally. Since a brief *résumé* of such an article can by no means do justice to it, a perusal of the above-mentioned review or its translation<sup>25</sup> is recommended.

#### SPLENECTOMY.

Mr. J. Knowsley Thornton<sup>26</sup> has reported two cases of splenectomy, in which details are fully recorded. One of the cases was successful, and ap-

<sup>19</sup> British Medical Journal, November 13, 1888, pages 899 to 905.

<sup>20</sup> Vide "Hepatic Phlebotomy and Puncturing the Liver's Capsule, as a Remedial Measure in Hepatic Disease." British Medical Journal, January 15, 1887, p. 98.

<sup>21</sup> Trans. Med. Assoc. State of Missouri, May, 1886.

<sup>22</sup> Revue de Chirurgie, March, 1886.

<sup>23</sup> Nord. Med. Ark. Bd. xvii, No. 18, Sweden.

<sup>24</sup> Centralb. f. Chir. 1886, No. 20.

<sup>25</sup> Annals of Surgery, August, 1886.

<sup>26</sup> Med. Chir. Trans., 2d series, 51, 467.

pended is an analysis of all previously-recorded cases. Ceci A.<sup>27</sup> has also successfully removed an hypertrophied displaced spleen in a young subject.

THE RADICAL CURE OF OBLIQUE INGUINAL HERNIA BY INTERNAL ABDOMINAL PERITONEAL PAD, AND THE RESTORATION OF THE VALVED FORM OF THE INGUINAL CANAL.

Forty-seven cases of the above operation are reported by William Macewen,<sup>28</sup> with no deaths. Fourteen of the forty-seven cases were subjected to operation for radical cure after the relief of strangulated inguinal hernia; three afterwards wore a truss, as a precautionary measure. Of the thirty-three operated upon directly for a radical cure, only one wore a truss, and this was from force of habit.

Nine cases of femoral hernie were similarly treated, after the relief of strangulation. None of these patients require a truss.

A short description of the operation may be given, but the details are best obtained from the original paper, which has numerous cuts, illustrating the steps of the operation. The hernia (inguinal) having been reduced, an incision is made over the external abdominal ring, the sac isolated from the cord and canal in which it rests, and the peritoneum is separated by the tip of the finger for about half an inch about the internal abdominal ring; then a stitch is passed through the distal extremity of the sac, and the ends of the threads are passed through the folds of the sac, transfixing it proximally, so that, when pulled upon, the threads pull up the sac, like a curtain. The free end of this stitch, threaded on a hernia-needle, after traversing the canal, is made to penetrate the anterior abdominal wall about an inch above the internal ring, the skin being pulled upward, so as to allow the point of the needle to penetrate the muscles, but not the skin. This stitch is then tied, drawing the sac into a series of folds, which are placed just inside the internal abdominal ring, thus forming a pad of peritoneum over the internal abdominal opening.

The operation is completed by the introduction of stitches, which are passed from the conjoined tendon to the aponeurotic structures of the transversalis, internal and external oblique muscles, restoring, in this way, the valve-like form of the canal. Strict antiseptic precautions should be observed.

THE IMMEDIATE CLOSURE AND RAPID CURE OF FISTULA IN ANO.

Stephen Smith<sup>29</sup> gives the particulars of his method as follows: After the patient is anesthetized, and the parts to be subjected to operation made antiseptic, a sponge wrung out in bichloride solution is passed up the rectum, above the fistula. The fistula and its branches are freely opened, the pyogenic membrane is thoroughly removed with scissors or scalpel, and all hemorrhage stopped. Then an assistant, with his index finger introduced well up the rectum, extrudes the whole track of the fistula. Sutures are next so applied that the deep parts are brought accurately together, and the margins of the mucous membrane everted. This is accomplished by taking "a large-sized carbolized silk or chromic-acid gut ligature, and attaching a needle having a slightly-curved point to

each end. One needle is now passed just above the highest point of the incision, and from a fourth to half an inch from the margin of the wound, and the thread is drawn through to its centre. The needles are then passed in opposite directions, at intervals of about half an inch, in the same manner as the saddler takes his double-stitch when two pieces of leather are held in a vice and united. If the fistula is simple, and there is no abscess-cavity, the stitches are continued to the external extremity of the incision, making a continuous suture on each side of the wound."

They are now tightened sufficiently to evert the margins of the mucous membrane; and the ends of the ligature are held by an assistant, who draws out the whole fistulous track, while a nicely-applied continuous suture unites the mucous membrane. A drainage-tube is inserted into the external extremity of the wound. This is all done aseptically, and iodoform-gauze pads are applied. The sponge is withdrawn from the rectum, and a suppository of morphia is inserted. The diet should be milk, and no defecation allowed for from four to six days.

"The principles which should be borne in mind in the operation are. (1) Complete removal of the lining membrane of the fistula, and of the abscess-cavity which may exist. (2) Accurate and permanent adjustment of the opposing surfaces. (3) Thorough antiseptic treatment of the wound."

THE TREATMENT OF AORTIC ANEURISMS BY THE INTRODUCTION OF WIRE AND GALVANISM.

Dr. Cayley's case, on which Mr. Hulke<sup>30</sup> operated, introducing forty feet of steel wire into the sac of an aneurism, with the result of solidifying the tumor, gave rise to an interesting discussion, bringing up the following points: (1) That the introduction of foreign substances is usually easy. (2) That, so far as experience goes, the proceeding appears to involve very little danger when it is carefully carried out.

Mr. Barwell<sup>31</sup> reports a case of an aneurism of the arch of the aorta, involving its lower aspect, treated by the introduction, through an ivory stylet, of ten feet of the finest steel wire. The end of the wire was connected with the positive pole of a battery; the negative pole being placed over the upper dorsal region, then a current of nine milliamperes was passed through the circuit for one hour and ten minutes. The pulsation was more distant, and the tumor was harder at the end of twelve hours. On the fourth day a new tumor formed, which soon ruptured, and the patient died.

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<sup>28</sup> Ann. Surg., August, 1886, p. 86.

<sup>29</sup> N. Y. Medical Record, June 12, 1886.

<sup>30</sup> Med. Chir. Trans., 1886.

<sup>31</sup> Lancet, June 5, 1886.

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## Hospital Practice.

### BOSTON CITY HOSPITAL.

#### TWO CASES OF COMPOUND, DEPRESSED FRACTURE OF THE SKULL.

REPORTED BY OLIVER H. BOWE, M.D., formerly House-Surgeon.

CASE I. DELAY AND NEGLECTED TREATMENT BEFORE ENTERING HOSPITAL; LATE OPERATION, SHOWING ABSCESS OF BRAIN; DEATH; AUTOPSY.

M. D., FIFTY-SEVEN years old, and a laborer, entered the hospital (service of Dr. E. H. Bradford) April 5th. His history was that, a week before entrance, a brick fell from a height of four stories, striking him on the forehead, knocking him down, and making a wound about two and one-half inches long. This wound was sewed up at once by a doctor. The wound seemed to heal readily, and the man felt all right until two days

before entrance, when he began to have pain in his head, and became very stupid and weak, and very sensitive to pressure about the wound.

Examination, at time of entrance, showed, on the left side of the forehead, about two inches above the eyebrow, a soft, fluctuating, and exceedingly tender area of the size of a half-dollar, not raised above the surrounding surface. Extending across this area was a semi-circular, linear cicatrix. This cicatrix was complete, except at its middle, where was seen a small opening, just admitting a probe, from which opening there exuded, on pressure, a drop of bloody pus. By dilating the opening and using pressure, about a drachm of pus escaped, and the probe detected an area of bare bone underneath, a part of which was depressed about three-sixteenths of an inch, the edge of the depressed portion coinciding with the cicatrix outside. The pupils were equal, and responded equally to light. Slight divergent strabismus in the left eye. Convergent strabismus at times. No hemiplegic symptoms found.

Patient is very stupid, scowling, and cross. Friends say he was somewhat so before the injury. He remained in the hospital, at this time, thirty days, stubbornly refusing to have any operation done for raising the depressed bone. His headache persisted, and his moods did not change. Free openings for discharge from the wound were maintained, and pus was washed out from time to time.

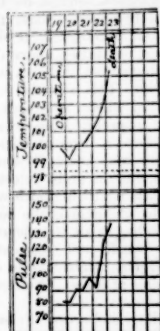
May 19th, eighteen days after leaving the Hospital, and fifty-one days after the receipt of the injury, the patient was brought in again, this time in an unconscious condition. The story was that, after leaving the hospital, his condition had remained unchanged until twelve hours before entrance, at which time he became suddenly unconscious, and his right side became paralyzed.

Examination showed the wound in about the same condition as on leaving the hospital. Patient is completely unconscious. Hemianesthesia and paralysis of motion of right side, but right arm and leg show considerable rigidity on passive motion. Facial paralysis on right side. Pupils unequal; both react, but the right slowly. Divergent strabismus; flush over upper part of body. Respiration 24; slightly stertorous in character. Pulse 72, irregular and soft.

Incisions were made to expose the seat of fracture. The bone was found depressed over an area the size of a silver half-dollar, and the edges of bone were carious at the line of fracture. The skull was trephined at the edge of the depressed portion, and some of the depressed bone removed. The dura was then opened, and an incision made into the brain substance, which resulted in the evacuation of about two ounces of bloody pus. The opening in the brain was then explored with the finger, which was passed in up to the second joint. A small cavity was felt, the walls of which seemed quite firm to the touch. The cavity was thoroughly washed out by irrigation, and a large drainage-tube inserted.

There was no appreciable change in the patient's condition immediately after the operation. The next day, sensation in right leg and arm returned to slight degree, but there was no motion. Prick of pin on right side caused quick motion of left side, which it did not do before the operation. The second day after the operation he seemed to understand what was said to him, and said "No" in answer to questions.

Muttered to himself. The next day he was wholly unconscious again; respiration was again stertorous. The fourth day after the operation, the temperature,



which had been gradually rising, shot suddenly up to 105.3°, and the pulse to 138.

Cyanosis became marked, and sensation was lost on the left side. The question of further operative measures was considered, but dismissed. The cavity was again syringed out, no pus being obtained. He died about an hour later.

At the autopsy, made by Dr. Gannett, a cavity, the size of a large common walnut, was found, directly communicating with the opening made by the trephine. The walls of the cavity were formed of brain substance, and were quite smooth and dry. Close to the cavity just described, was a second one in the brain substance, the size of a filbert, and filled with pus. The brain substance about both cavities was rather softer than usual, of a yellow color, with numerous minute red points. This change extended for a distance of about three centimeters into the brain substance.

#### CASE II. PROMPT TREATMENT: RECOVERY.

J. S. was struck on the head by a bolt on a large revolving pulley at an electric-light station. Two hours later he came to the hospital. At the anterior part of the top of his head, to the left of the median line, and on both sides of the coronal suture, were two wounds (see diagram), each about four inches long.



At the bottom of the anterior wound, the bone was comminuted and depressed over an area about  $2\frac{1}{2}$  inches long by  $\frac{3}{4}$  inch wide, the outer table being driven down below the level of the inner table. In the posterior wound, the skull was comminuted and depressed in a space about  $1\frac{1}{2}$  inches long by  $\frac{3}{4}$  inch wide, the outer table being depressed about one-fourth of an inch below the level of the surrounding bone. The man was entirely conscious, and showed no symptoms from the injury. He was a vigorous, healthy-looking man; said he had never been sick, and that he drank moderately. Pulse 60.

Ether was given, and Dr. Gay trephined the skull at the outer side of the anterior wound, and raised and removed all the fragments in the anterior depressed portion, the opening extending to the median line over the superior longitudinal sinus. The dura was exposed, and, so far as examined, did not appear to be lacerated. The posterior depressed portion was not touched. The whole was done antiseptically, and a dressing of iodoform gauze applied.

The man remained in the Hospital thirty-one days,

during which time the wounds steadily closed, until, at the time of his discharge, only two superficial, granulating surfaces, each of the size of a quarter-dollar, remained. There was no pus for the first two weeks after the operation; after that, a moderate amount from the granulations. Pulsation was visible in the anterior wound for about three weeks. During the whole time the man had no symptoms of any kind, and no pain, except immediately following the operation. The temperature, during the first two weeks, never rose above 99.2°; after the first two weeks it was normal. The pulse, for three days following the operation, was about 90. It then fell to about 60, where it remained till the man began to sit up, after which time it was about 75.

These two cases illustrate the difference in result between good and bad treatment.

In the case of M. D., although a depression of three-sixteenths of an inch existed, the wound was sewed up. It consequently healed, leaving the seat of mischief sealed over. Later on, the ignorant and stubborn patient refused proper treatment; and, as a result, the cerebral abscess, sudden unconsciousness, and death followed.

In the case of J. S., although the injury was apparently much more severe, he received appropriate treatment within three hours after the accident; free drainage was maintained, no symptoms occurred, and the man made a good recovery.

### Clinical Memorandum.

#### A CASE OF ABDOMINAL PREGNANCY.

BY ENOS H. BIGELOW, M.D., FRAMINGHAM.

JANUARY, 1887. C. A., American, thirty-three years, of rather slight frame and active habit, medium height, average weight about one hundred and fifteen pounds. Seven years ago she bore a child now living. Was married a second time in 1882. Since this last marriage she has suffered from occasional attacks of pain in the bowels, accompanied with difficulty of micturition and some vaginal discharge.

In June, 1886, not long after a menstrual period, she complained of severe pain in the abdomen, together with nausea and difficulty in urinating. She had however had, previously to this, similar, but less severe, attacks. An examination made at this time showed per vaginam the presence of old pelvic inflammation and adhesion, the uterus being immovably fixed posteriorly.

Through the summer and fall she had several attacks of severe pain, at first attributed entirely to the presence of leucorrhœa, with heat and tenderness about the uterus, indicating some peri-uterine inflammation, or endometritis; later, however, the presence of pregnancy being demonstrated, the pain was thought to be due to the enlargement of a uterus which was surrounded by inflammatory tissue, and more or less fixed thereby. In November, the placental souffle was very evident, and appeared close to the ear placed at the right groin. The abdomen was uniformly distended and sensitive to the touch, making palpation painful and unsatisfactory.

Some time in October it was remarked that the

movements of the fetus, which had been distinctly felt, ceased entirely. Late in November there was an offensive discharge from the vagina, and the woman's strength began to fail. Hectic fever, a low typhoid condition, sallowness, and other symptoms of blood-poisoning, developed slowly. Examined per vaginam the os and cervix were patulous, admitting the finger as far as the internal os. The uterus was so fixed and surrounded by inflammatory deposit as to make it impossible to define its outline or size.

December 8th. Dr. Z. B. Adams saw the woman in consultation, and suggested extra-uterine pregnancy as a possible explanation of her condition, and advised that she be etherized with a view to more accurate diagnosis.

December 14th, she was etherized and a more thorough exploration made. The uterus was found to be empty, and of about the normal size, and a diagnosis of extra-uterine, probably abdominal, pregnancy, was made.

The advisability of operation by abdominal section was carefully considered. The patient and friends were informed of her unfortunate condition, and an operation was offered but not strongly urged. The arguments in favor were faithfully presented, but, because of the difficulty anticipated in dealing with the placenta, no encouragement could be given that it would be successful in preventing a fatal termination, whereas on the other hand, the case could not be proved to be absolutely hopeless if left to nature. She declined operation.

The woman gradually sank and died of septic peritonitis, January 23, 1887.

Autopsy twenty-four hours after death. Emaciation extreme, abdomen greatly distended. Three gallons of chocolate-colored fluid in abdominal cavity. The peritoneum was necrosed and showed large patches of lymph. Stomach and bowels empty. Fetus perfectly formed, sixteen inches in length, was free in the cavity of the abdomen. The spine presented and the head lay under the right lobe of liver and in contact with it. The placenta was attached very firmly to the right peritoneal surface extending four inches above the crest of the ilium and occupying the pelvic cavity of that side. The right tube was thickened, distended with dark fluid, and involved in old adhesion. No rupture of either tube was discovered. The uterus was compressed and lay low in the pelvic cavity, posteriorly placed and against the rectum.

Difficulty of diagnosis. An hysterical woman; a uterus involved in adhesions resulting from previous pelvic inflammation, fixed and immovable, and revealing nothing to the touch of its form and size; and the presence of a general peritonitis with abdominal distension and tenderness, and fluid in the dependent parts. Under ether, however, it appeared that the womb was empty, and the presence of a tumor resembling a fetus together with a pretty clear history of pregnancy, made a correct diagnosis possible.

— *Life* remarks that in Boston they do not say stomach-ache, they call it "gastric neuralgia," but it gets there just the same.

— It is said that a favorite tannic medicine in use in the New York hospitals is named, for obvious reasons, the "Early Bird."

## Therapeutical Memorandum.

### THE VALUE OF THE BILE SALTS WHEN USED IN CONJUNCTION WITH INUNCTIONS OF COD LIVER OIL.

BY ROBERT AMORY HARR, M.D., (UNIV. OF PA.),  
Demonstrator of Experimental Therapeutics and Instructor in Physical Diagnosis in the University of Pennsylvania.

WITHIN the last few months I have had occasion to use cod liver oil by inunction several times when the stomach was not in a condition to bear its internal use, and while I have hitherto frequently prescribed this line of medication, I never fully realized the difficulties and the disagreeable conditions produced until such a line of treatment was introduced in my own family. In the first place the amount of rubbing necessary is a great objection to its use when the patient is very weak, or when the oil is being applied to a young child where the area is comparatively limited. Again, the amount of exposure during the inunction in the endeavor to protect the clothing is by no means slight, and if the greatest care is not exercised in regard to this, the invalid's clothes, which are necessarily stale enough, are made positively unbearable to both himself and friends. It occurred to me that as one of the functions of the bile salts was to aid the passage of fats through animal membrane, that perhaps they would act in the same manner when applied to the skin, and practical results have proved this theory to be true. The fact that cod liver oil inunctions are productive of good results is so well known, that any report of such cases is superfluous, and I shall therefore simply describe the method which I have used. In obtaining the salts I have simply gone through the process used commonly in a physiological laboratory, but it may not be out of place to briefly give the method here. To about 300 cc. of ox-gall is added nearly thrice that quantity of ordinary alcohol, and the flask shaken thoroughly. All the mucus is now precipitated and the supernatant fluid is filtered. To the filtrate is added a large excess of sulphuric ether and after a time a plaster-like mass forms at the bottom of the vessel, which slowly becomes crystalline. These crystals are now placed on a filter paper and washed with a mixture made up of ether and alcohol, equal parts. The filter paper is dried and the substances then seen are the taurocholate and glycocholate of soda. Having carefully removed these salts from the paper they are ready for use.

In my experiments I have found that a small pinch of this powder will aid very materially in the speed with which a teaspoonful of the oil is absorbed, and that the rapidity of absorption is in direct ratio with the quantity of bile salts used. Thus, if half a teaspoonful of the oil be placed on the thin skin of the inside of the thighs, and bile salts added to the oil on one side, both legs being rubbed equally hard, it will be found that the oil with the bile salts added disappears in nearly half the time that is required for the absorption of the pure oil. In addition to the increased rapidity of absorption it will be noticed that even after all the oil has been rubbed in on both legs, there still remains a strong odor of the oil and some greasiness on the limb rubbed with pure oil, while on the opposite limb the odor is greatly decreased, as is also the greasiness, which may indeed be entirely absent, proving that all the oil has passed from the surface.

Several repeated applications of bile salts and oil to the same spot within twenty-four hours, has failed to produce any sign of irritation of the cuticle. I think, therefore, that this use of the bile salts deserves more than a mere trial, and the avoidance of the odor and the hand-rubbing is certainly a strong point in its favor, aside from the increased quantity of the oil which is by this means absorbed.

At my suggestion, Messrs. Fairchild Bros. & Foster, of New York, the well-known manufacturers of digestive ferments, have undertaken the preparation of these bile salts, and any physician desiring to use them can obtain them from this firm.

### Reports of Societies.

#### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

E. O. OTIS, M.D., SECRETARY, *pro tem.*

MEETING February 7, 1887.

DR. E. J. FORSTER, in the chair.

DR. M. H. RICHARDSON showed two specimens of stone in the bladder. The first illustrated the difficulty often met with in searching for stone. It was taken from the bladder of a man about sixty who had been catheterized daily for a year with a metallic instrument, and yet no suspicion of stone had been entertained by the attending physician. On careful examination a faint click had been detected at the Massachusetts General Hospital, by Dr. Richardson. Even then it was so doubtful that for some time the presence of a calculus had been doubted by other surgeons present. The stone was easily found and crushed with the lithotrite, and weighed twenty-one grains. The patient made a good recovery. The second case was that of a man who died of some lung trouble, probably phthisis, some months after an operation had been done by Dr. Richardson for the removal of a phosphatic stone from the bladder. There had been no difficulty in the operation and the patient seemed all right as far as the bladder symptoms went. An examination after death revealed the presence of a small stone which was encysted on the wall of the bladder so as to be almost wholly concealed. At the end of the operation the bladder seemed to be quite empty, and the water came into the evacuator perfectly clear. The failure to detect the very small presenting portion of the stone at the final introduction of the searcher was probably due to the almost complete covering up of the stone by the inflamed and swollen mucous membrane. It seemed to the speaker that this would have been a better case for suprapubic lithotomy than for crushing, had it been possible to know that there was an encysted stone. Such errors would be avoided if the supra-pubic operation were done in all doubtful cases.

DR. F. B. HARRINGTON presented the notes of a case of

OSTEO-SARCOMA OF THE LOWER JAW: OPERATION, and exhibited specimens of the tumor prepared by Dr. Whitney.

DR. RICHARDSON said that this was one of the largest and bloodiest operations he had ever seen. He inquired if there were not troublesome cicatricial con-

tractions from the loss of the mucous membrane, mentioning a case of his own in which this had occurred to such an extent that the mouth could be only slightly opened.

DR. HARRINGTON replied that in this respect he was more fortunate.

DR. F. C. SHATTUCK presented a paper upon

THE SUBSEQUENT HISTORY OF A PATIENT WITH AN ABDOMINAL TUMOR DIAGNOSTICATED AS FLOATING SPLEEN IN 1877.<sup>1</sup>

DR. RICHARDSON asked if there were any evidences of kidney disease given by the urine at the time of the original examination.

DR. SHATTUCK replied that he thought the urine was not examined; at least he had no record of it.

DR. HARRINGTON asked if the hamaturia might not have been due to the cancer rather than to the strangulation or stoppage of the ureter, as suggested.

DR. SHATTUCK replied that as the patient had several attacks of renal hamaturia during the four years, the question was as to the possible growth of the cancer all this time.

DR. GANNETT said he agreed with Dr. Harrington that the hamaturia was caused by the cancer which had existed all this time. He also presented a diagram showing the abnormal arrangement of the peritoneum about the kidney.

DR. SHATTUCK said that as he understood the matter, a kidney may become displaced and gradually elongate the peritoneum, thus becoming an acquired movable kidney in distinction from a congenital one, which lies lower than normal, but is fixed. This man's kidney was out of place and enlarged nine years before his death. Cancer of the kidney (in children at least) is of comparatively short duration.

DR. GANNETT said that acquired movable kidney happened in most cases in those who having been very fat lost much of their adipose tissue.

DR. SHATTUCK stated that movable kidney is most common on the right side in women and occurred frequently, irrespective of loss of fat about the kidney or elsewhere.

DR. RICHARDSON asked if the tumor at the time of death was any larger than at the first examination.

DR. SHATTUCK thought not, but at the last there was in addition the enlarged liver, lymphatic glands, etc.

DR. FORSTER said he had seen the case at a later period than Dr. Shattuck, and it seemed to him that the tumor increased after the man entered the hospital.

DR. CHANNING inquired how long Dr. Shattuck thought the kidney had been in the position and condition noted, and was answered that that could not be definitely told, undoubtedly for some time before the first examination.

DR. GANNETT inquired if Dr. Shattuck had made any note of the splenic percussion, and was answered that there was no dulness in the splenic region.

— FRANCISO MAGIN, an eminent Italian ophthalmologist, director of the anatomical school at Florence, and later professor of ophthalmology at Bologna, died at San Remo, February 2, 1887, aged 59.

<sup>1</sup> See page 273 of this number of the Journal.

## THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, February 17, 1887.

## ADDRESS BY THE PRESIDENT.

The President, DR. A. JACOBI, delivered an address, the object of which was to discountenance the various methods resorted to by certain members of the profession to advertise themselves in the newspapers and in other ways.

DR. C. L. DANA read a paper on

## SPASTIC ATAXIA, FUNCTIONAL AND ORGANIC, AND THE COMBINED SCLEROSES OF THE SPINAL CORD.

The object of the paper, he said, was to show a class of cases, not very rare, which correspond to some extent with ordinary progressive locomotor ataxia, but to a much more marked degree with spastic paraplegia. This affection it was important to recognize, both for prognosis and treatment. He had been able to collect forty-five cases of combined sclerosis, observed by various authorities, including two, the history of which, with the autopsies, were reported for the first time in the present paper; but all but sixteen of these he felt obliged to exclude, on account of various circumstances, which, he thought, prevented them from coming properly under the head of the class of cases of which he was treating: those so admirably described by Gowers, and designated by him as ataxic paraplegia. Dr. Dana had notes of seven cases, six of which occurred in males, and one in a female; and he related several of them in detail.

In describing the symptoms, he said that there was gradually-increasing weakness of the limbs, with some loss of power of coördination; but the lancinating pains of tabes were, as a rule, absent, while the knee-jerk was increased, instead of being lost, as in the latter affection. The "Argyll-Robinson" pupil was also seldom seen. As the disease advanced, the muscular power became more and more impaired, while the incoördination did not proportionally increase, but was over-shadowed by the increasing paralysis. The increased myotatic irritability continued, and stiffness and rigidity developed as its consequence. "Thus," as Dr. Gowers had so well described it, "the aspect of the patient comes to be that of spastic paraplegia: the feet drag as the patient walks, shake from clonus when he stops, and the legs are hauled forward with visible effort at each step." Sexual power was often lost early in the disease. The sphincters were frequently impaired, but the impairment rarely reached a considerable degree. There was, as a rule, no wasting of the muscles, and no change in their electrical excitability.

The pathological condition found, *post mortem*, by Dr. Dana, was chronic cervico-dorsal myelitis, affecting the lateral columns primarily, the gray matter secondarily. In a case, the drawings from which he exhibited, there were secondary degenerations in the lateral columns, and ascending and descending development of sclerosis in the columns of Goll. In addition, there was sclerosis of the crossed pyramidal tracts, most marked in the dorsal region, and sclerosis in the cerebellar tracts to a moderate extent. The sclerosis in the columns of Goll was most marked in the cervical region. According to Gowers, in all cases the spinal cord has presented sclerosis of both posterior and lateral columns; but the precise extent and degree of

the degeneration seem subject to considerable variations. As a general rule, he says the sclerosis of the posterior columns differs from that of tabes in two particulars: First, it is not more intense, and often is less intense, in the lumbar than in the dorsal region of the cord. Sometimes, indeed, in the middle and lower parts of the lumbar region, the posterior columns may be free from sclerosis, although it is considerable in the dorsal region, and at the junction of this with the lumbar enlargement. The second difference is that the sclerosis has rarely the special intensity in the root-zone of the postero-external column that characterizes the lesion of tabes.

The prognosis as to life, Dr. Dana went on to say, was better than in simple tabes dorsalis. The disease had little tendency to cause death; indeed, according to Gowers, the fatal cases had, for the most part, been untypical, and did not convey an accurate idea of the character of the disease. The chief danger to life was from the accidents common to all chronic spinal affections, and especially from kidney disease secondary to retention. So far as the prospect of recovery was concerned, the prognosis was unfavorable; and one case was on record, in which the affection had already lasted thirty years.

The treatment did not vary greatly from that of locomotor ataxia. Rest was a very important element, and electricity, both static and in the form of the faradic current, was useful. Orthopedic appliances to support the enfeebled limbs were often of great service. Anti-syphilitic treatment should always be thoroughly tried; and later, large doses of iodide of potassium were to be resorted to. In conclusion, Dr. Dana said that, while no name had as yet been found which properly described the disease clinically, he thought the designation, combined fascicular sclerosis, was applicable from a pathological point of view. (During the reading of the paper he exhibited a number of sections of the cord, photographs, and drawings illustrating the subject.)

DR. M. A. STARR said that he thought we still had to look for a thoroughly satisfactory name; and that the one proposed by Dr. Dana, combined fascicular sclerosis, ought not to be accepted, since the pathological changes met with after death showed that the affection was not entirely fascicular in character. The diagnosis between tabes and combined sclerosis, he remarked, was often very difficult; and, again, the occurrence of general paresis in connection with tabes sometimes made us hesitate in arriving at a diagnosis.

DR. G. W. JACOBY expressed the opinion that our knowledge of this affection would not be increased much by the study of purely clinical pictures.

DR. E. C. SQUIN related a case of his own, and presented sections of the cord of his patient, stating that they seemed to show that there were instances in which the pathological changes were intermediate between fascicular sclerosis and disseminated sclerosis.

THE PRESIDENT suggested that perhaps the sclerosis followed the course of the minute bloodvessels, whose extensive network, it had been shown, served to connect and bind together the various fasciculi of the spinal cord. This anatomical fact might, he thought, offer a satisfactory explanation of these mixed forms of sclerosis. He regarded the subject of the paper as one of great importance to general practitioners, on account of the frequency with which disease of the spinal cord was now seen.

## NEW YORK NEUROLOGICAL SOCIETY.

STATED meeting, March 1, 1887.

The President, CHARLES L. DANA, M.D., in the chair.

PRESENTATION OF THE CORD AND NERVES IN A CASE OF ALCOHOL PARALYSIS. MULTIPLE NEURITIS.

DR. H. M. BIGGS presented the case. Bertha S., aged thirty-five, married, admitted to the Hospital, September 20, 1886. History imperfect. Nothing of importance in the history up to the beginning of her present illness, about five weeks before admission, when she began to have sharp shooting pains in both legs, but more severe in the right. She began to lose power in her limbs, and one week later was unable to walk because her limbs were "too weak." The loss of power seemed to begin in her feet. She complained of pain in her back and weakness when she tried to stand. Later, she began to have pain and lose power in her arms. She says she has been a moderate drinker, and denies syphilis.

On admission, the patient was almost completely paralyzed in lower extremities; could barely raise her limbs from the bed. The muscles of the upper extremities, especially the extensors, were also somewhat affected. There were some spots of hyperæsthesia and partial anaesthesia irregularly distributed over the lower extremities, and also considerable numbness. Sensation in the upper extremities seemed to be normal. The reflexes were lost. There was marked atrophy in the legs and thighs on both sides, particularly of the extensors of the foot, and a moderate amount in the arms. The extensors here were also most affected. She complained of very severe pain in the arms and legs, which kept her awake at night, and there was marked tenderness on pressure. Temperature at 9 A.M., 100; at 5 P.M., 101.2. Pulse, 9 A.M., 104; at 5 P.M., 112. Urine 1,018; albumin one-eighth in bulk; no casts.

Two days after admission the patient was found to have a moderate amount of fluid in the right pleural cavity. Twenty-four ounces of serum were withdrawn. She gradually failed, lost strength, emaciated; the pleurisy developed into an empyema, for which a free opening was made in the chest. Before death, which occurred in February, 1887, she had lost all power over both lower extremities, and the arms were partially paralyzed. Atrophy was very marked in both lower extremities and forearms. Pain was constant and paroxysmal, and very severe. Tenderness on pressure, and pain on movement of muscles marked. Contraction of the muscles had gradually developed until thighs were sharply flexed on trunk, and legs on thighs. Attempts to straighten the limbs caused the most severe pains. The bladder and rectum, the muscles of phonation, deglutition, and respiration, and the nerves of special sense were entirely unaffected. The reactions of degeneration were present. The patient died of exhaustion resulting from the empyema.

Autopsy: Patient greatly emaciated. Legs and thighs markedly flexed. Muscles of the leg of a yellow color, and apparently converted almost entirely into fat. Muscles of thigh much less affected. Spinal cord, nerve roots and trunks normal in appearance.

Microscopical appearances: spinal cord apparently

normal, with the exception of slight sclerosis in the columns of Goll in cervical region. Nerve roots normal. In one of sacral nerves before its exit from spinal canal was found a marked increase in the endoneurium with diminution in the number of the nerve fibres, and an irregularity and indistinctness in these appearances. The right sciatic nerve showed the same changes more marked. In the posterior tibial the process was even more advanced, and in this only an occasional nerve-fibre could be detected. Microscopically the gastrocnemius was composed almost entirely of adipose tissue; only here and there atrophied muscle fibres were found. The small nerve-trunks in the muscle showed advanced degenerative neuritis, with comparatively little new growth of connective tissue in the nerves.

The president thought that in this case it had been fully demonstrated that the alcohol paralysis was due to a neuritis and not to a myelitis.

DR. M. A. STARR had seen the specimens, and said there was no question with regard to the existence of neuritis in this case, and the normal condition of the anterior cells of the spinal cord. There was slight sclerosis in the columns of Goll which he was unable to explain. The same condition had been observed in a case of Hamilton recorded by Granger Stewart. He referred to a well-prepared specimen by Dr. Van Gieson in a case of Dr. Ball's, not yet published; also to the manner of preparing specimens.

DR. BIGGS said that contrary to the ordinary condition found, the process seemed to be more a degeneration of nerve-fibre, than an interstitial neuritis, especially in the smaller nerves.

DR. NOYES spoke of the frequent occurrence of amblyopia with alcoholism, and said it was due to a partial neuritis of the optic nerve, referred, as had been shown to the centre field, and not to the field at large. He suggested that in cases like the one reported by Dr. Biggs, the neurologists should make careful examination of the optic nerves. In reply to Dr. Starr, whether scotoma was due as frequently to tobacco as alcohol, he said it might be due to either, but the patients frequently combined the two habits.

The president said the name, alcohol paralysis, was rather begging the question; this patient, it seemed, had been only a moderate drinker. The same fact had been noticed in other cases.

Abstract of DR. STEVENS'S paper on

IRRITATIONS ARISING FROM THE VISUAL APPARATUS CONSIDERED AS ELEMENTS IN THE GENESIS OF NEUROSIS.

Two classes of influences were recognized as causes of functional nervous disorders; the remote and the immediate. The remote causes may be sufficient to perpetuate a neurosis when once a nervous irritation has been instituted. While immediate causes rarely induce long-continued disorders, a pre-existing influence may serve to continue it indefinitely. It is of little practical importance that some exciting circumstance has given rise to a nervous trouble. The event has passed and cannot be recalled. If there is an underlying cause it is of much more importance.

Persons in whom underlying causes of neurosis exist, are said to possess a neuropathic predisposition, and those subject to it are liable, from trifling immediate causes, to suffer from various neuroses. In a considerable proportion of cases the neuropathic ten-

deney is hereditary, but the result is not always manifested in the same form in different generations.

A third class of cases which should be recognized may be designated as *modifying tendencies*, among which may be mentioned vitiated atmosphere; the period of life, and the performance of certain physiological functions.

Often as a result of the predisposing influence, when one form of complaint is supposed to be cured, the subject of it is simply suffering from some other form.

Must the predisposing cause of neurosis be central, pervading the whole organism, or must it of necessity be located in the great nerve-centres, or may it be entirely local and outside those great centres? Undoubtedly it may be local, and confined to any portion of the nervous system.

Inasmuch as the tendency is often hereditary, may not the evil consist of some peculiarity of anatomical structure or of physiological adaptations which are inconsistent with the most regular and easy performance of the function of a part or parts; and may not certain classes of mechanical peculiarities be unusually liable to become factors of physiological disturbance?

If we answer in the affirmative, we assume a hypothesis which must be maintained by long-continued observations, conducted in a spirit of judicial independence, and free from the bias which might result from occasional and exceptional experiences. The conclusions announced this evening are based upon observations in more than five thousand cases in private practice, and of a considerable number in public institutions, all of which have been made with as much precision as the exacting demands of an active professional life would permit. The central truth, as arrived at by these observations, may be stated, as it has already been done in a memoir to the Royal Academy of Medicine of Belgium, in 1883, as follows:

Difficulties attending the functions of accommodation and of adjusting the eyes in the act of vision, or irritations arising from the nerves involved in these processes, are among the most prolific sources of nervous disturbances; and, more frequently than other conditions, constitute a neuropathic tendency.

In the proposition, all causes of nervous irritation are recognized. It is held that the influences indicated are preëminent, but not exclusive permanent causes. Let it be remembered that it has been universally conceded that the nature of the neuropathic tendency is unknown. If one preëminently important element is demonstrated, it is not to be rejected because it may not include the whole.

The speaker proposed only to illustrate the result of his experience by exhibiting some photographs of cases of notable neuroses, which showed very remarkable changes of physiognomy, such as habitually occurred when certain hurtful tensions of the ocular muscles were relieved. If he had designed to present only the most remarkable cases of the class to which these belonged, he would have chosen only a few of these. The design was, however, only to show, by these contrasting photographs, the very notable improvement which, in obstinate, and even by ordinary means, hopeless cases of the most important neuroses, might be expected from relief from certain hurtful tensions of the eye-muscles.

The portraits were in pairs, the first having been taken at the commencement of treatment, the second at a later period; the interval being, on an average,

about one month. The first series represented cases in his private practice; the second series, cases which were under his care for a short time at the Willard Asylum for the Insane, last summer. The first series had been made by various photographers; the second by Dr. P. M. Wise, Superintendent of the Willard Asylum. Thirteen pair of photographs were exhibited, nine of the first and four of the second series. In all these, very striking contrasts existed between the first and second portraits.

In No. 1, a weary and listless young girl, a sufferer from headache, and who had never been able to attend school, is seen to be transformed, in twelve days, into a vivacious and thoroughly awake child, following relaxation of each of the inner eye-muscles. The change in health was marvellous. In No. 2, an epileptic girl, whose vacant gaze and half-open mouth indicated a profound degree of dementia, within a single month, put on an appearance of robust health and of lively intelligence. In another case, a boy, choreic from infancy and imbecile, whose constant movements were too rapid, even, for the modern photographer, showed in the second photograph, from which the distortions of the face and wrinkles in the skin had disappeared, a clever mental state.

The speaker related, in brief, some of the results of a short season among the most hopeless cases of the Willard Asylum for the Insane. Two of these hopeless cases, who had, during the month preceding treatment directed to the eye-muscles, been subjected to about one hundred and seventy convulsions, suffered only about forty convulsions in the month succeeding that treatment, notwithstanding the withdrawal of all bromides.

Fifty per cent. of epileptics so treated had remained well for a length of time varying from many years to only a single year, but sufficiently long to indicate that a great change had been wrought. Thirty-two per cent. had received very marked relief, but short of absolute cessation of the complaint. They were all better without drugs than they had formerly been with. In seventeen per cent. no good results had been obtained.

The speaker thought that, with a better understanding on his own part of the extremely complicated condition of the ocular muscles often found in epilepsy, this record could be improved.

The method of procedure in examining for muscular defects was given. It differed radically from that proposed by Grafe, and generally adopted, and from other methods which had been suggested. His method of performing tenotomy was also described.

In conclusion, Dr. Stevens said he thought it was not unreasonable to look for the future advance in medical practice along two great lines: The one related to microorganisms; the other to irregular phenomena, resulting from well-defined causes of irritation, which causes must be sought for principally in the direction of difficulties in the performance of necessary functions. With the removal of such difficulties, we might look with confident expectation to the cessation of the peculiar irregularity which constituted the special form of nervous disease.

DR. E. C. SEGUIN said, with regard to the ætiology of neuroses and serious mental disorders, that he thought we ought to look a great deal deeper than the exciting and superficial causes which occurred in many cases of that kind. In epilepsy and chorea, for instance, he thought we had to look for the efficient

cause, not in disturbed external apparatus, but to hereditary predispositions and faulty tendencies. That faulty external apparatus would cause more attacks, or possibly aggravate the mental disorder, he thought no one would deny. Consequently, the optic apparatus, the genital apparatus, etc., should be put in perfect order. As to the great improvement after tenotomy in epilepsy, the records of surgery and medicine were filled with cases, in which trauma of various kinds had interfered with epileptic manifestations for months, or even years. It seemed to him, the report of a case within six months after tenotomy was rather premature. He referred to one of his cases of epilepsy recently submitted to division of the ocular muscles, the bromides, at the same time being withdrawn; and three days later she commenced to have from six to twelve convulsions in the twenty-four hours—more than she had ever had before the operation. He had had patients go three years without an epileptic attack, and then have a relapse.

DR. H. D. NOYES thought the precise ocular conditions of the cases reported should have been recorded; perhaps they were in that part of the paper not read. He had with him exact records of a number of cases of ocular trouble, with the result of treatment. It had not fallen within his experience to meet with the class of cases referred to by Dr. Stevens. He dwelt upon the importance of making a thorough ocular examination, including that of the muscles of the eye, in every case. He had come to realize more and more the importance of insufficiency of the external recti. He had obtained benefit in many cases from prisms. He spoke of the method of examination and of performing tenotomy. The paper deserved the most careful consideration.

DR. D. B. ST. JOHN ROOSA said that that part of the paper which especially concerned the ophthalmologist was as old as ophthalmology itself, and it did not call for discussion to-night. The real point in the paper was, he thought, that the correction of errors of refraction, improper relation between the ciliary and internal recti muscles, and other deviations of the ocular muscles, was capable of curing constitutional disease. He took it that epilepsy was a constitutional disease, and not merely a functional disturbance. The same was true of chorea. The question was: Did these operations cure epilepsy and chorea? But it had been shown that people with chorea got well without ever having errors of refraction corrected. It had also been shown that the vast majority of people who were not myopes were hypermetropes, yet suffered no inconvenience from it. In this, the author's second paper, another step had been taken, namely, that these constitutional diseases—epilepsy and chorea—were due, not solely to error of refraction, but to want of coordination between the recti and ciliary muscles. Then the prism test came upon the field, and we had to exercise the ocular muscles by prisms. Then, in the order of advance, came the doctrines taught in the paper of to-night. Granting the claims of the paper—that the patients had for a time after correction of an ocular difficulty been greatly relieved, possibly cured—yet that was a long way from assuming that the ocular disturbance, whatever it was, was the cause of the epilepsy. Many great men having strabismus had not become choreic, epileptic, or insane.

DR. A. L. RANNEY thought that, following the exhibition of the photographs, little need be said in con-

firmation of the views advanced by Dr. Stevens. The photographs were so startling that they would be accepted in any court of justice, by an unprejudiced jury, as proof that unmistakable benefits had been derived from the treatment. He had, personally, seen and examined several of the cases, and he considered the published histories as decidedly under-estimated. Dr. Ranney had performed the operation for the relief of ocular insufficiency nearly two hundred times; and had carefully examined the condition of refraction and accommodation, as well as that of the ocular muscles, in several hundred subjects afflicted with various forms of nervous disease. He did not pretend to pose as an oculist, but as a neurologist. Originally, he was a skeptic; but his skepticism became no longer tenable when he saw a choreic and epileptic imbecile in Dr. Stevens's office, who was perfectly restored in a short time to health and mental sanity by the method he had described. He thought the paper would tend to establish a new era in neurology. Regarding the operation, in no case had he had bad effects from it, but the treatment required careful regard to detail.

Respecting the view that the eye is an important factor in creating and prolonging the so-called "neuropathic predisposition," the following facts were pertinent:

(1) No one has yet shown in what this predisposition lies. Hence, if Dr. Stevens has shown that eye-defect is an important element in these conditions, a great advance has been made.

(2) There is no recognized pathology in functional nervous diseases.

(3) Heredity is very common in these affections.

(4) My records, in common with those of Dr. Stevens's, go to show that eye-defect is found in a very large proportion of such subjects.

(5) Many of the eye-defects found can be shown to be congenital, being inherited, like feature.

(6) The manifestations of the neuropathic predisposition vary with each case, and are called forth often by trivial circumstances, which are too frequently regarded as of great clinical interest.

In the treatment of the severer forms of functional nervous disease (for example, in chronic epilepsy), one radical cure without the use of drugs offsets a thousand failures, as a proof of the scientific value of a discovery. Dr. Stevens had seven cases free from epileptic seizures for more than five years after tenotomy of the eye-muscles, and without the aid of drugs. This could not be explained by chance. Then the records of the Willard Asylum were hard to contradict.

During the past year and a half he had seen sixteen epileptics in private practice; in only one was no defect of the eye-muscles found. He had an opportunity to operate on the eyes in eight of the cases: Three of these were cured; two had had no fits for over one year. In the five cases still under observation, the attacks had been lessened in all, drugs having been withdrawn. One had been reported by Dr. Stevens. In headache and neuralgia, he had some very remarkable results from tenotomy of the eye-muscles; also satisfactory results in hysteria and hystero-epilepsy.

DR. HERMAN KNAPP said his practice had not brought him much in contact with people who had neurotic conditions, and most of those whom he had seen had passed into other hands. He was very much surprised to learn that there was so high a percentage of ocular difficulties in the patients Dr. Stevens ex-

amined in the Asylum. He thought nervous people generally showed not only one complaint. Many people, especially young ladies who suffer from headache, etc., cease to complain after correction of a deviation of the eye muscles, etc. He had listened with the greatest attention to Dr. Stevens; and he felt quite sure that his work was not only legitimate, but that it was highly promising. He was only afraid we would not be spared disappointments in that line of treatment.

DR. GRUENING said his experience had been very much like that of Dr. Knapp. He always examined for muscular defect, and said that when one placed a prism before the eye, it disturbed binocular vision. For the correction of this apparent muscular defect an operation was performed; but the muscle was sewed to its original place, or the lateral attachment was not divided, and this was only the simulation of an operation. He had benefited many patients by cylinders.

DR. STEVENS, in closing the discussion, said there was no suggestion in the paper regarding cures. He did not believe in cures. Take away the cause of the trouble, and they got well. If the patients could not be said to be cured, it was still a very fortunate thing that they had got rid of their chorea, epilepsy, etc.

#### CHICAGO GYNÆCOLOGICAL SOCIETY.

REGULAR meeting, Friday, January 21, 1887.

The President, CHARLES WARRINGTON EARLE, M.D., in the chair.

DR. CHARLES T. PARKES made the following remarks upon

#### A CASE OF INTERSTITIAL PREGNANCY, WITH REMOVAL OF THE PRODUCT OF CONCEPTION THROUGH THE UTERINE CAVITY,

with the exhibition of the specimen.

The specimen, which I exhibit to-night, comes from a case, which has been of extreme interest to me, and is, I think, the remains of a conception, which was certainly outside of the uterine cavity, and which I succeeded finally in delivering through the womb. It was taken from a lady, thirty-three years of age, who seven years ago, was delivered of a child at full term. The child is now living. A year after that, she was taken with hemorrhage and had quite a severe bleeding, every month or second month, for two years. Some time after her pregnancy, she was operated upon for laceration of the cervix, but the operation had little effect upon the hemorrhage. Two years ago she again became pregnant, and was delivered at the proper time. This child is still living. The lady came under my charge last September, for hemorrhage from the uterus. On examination I found a globular mass in the lower portion of the abdomen, as large as two fists, very hard and tense. When I felt it through the abdominal walls, my impression was that it was a fibroid growth. Upon digital examination, I found the cervix dilated sufficiently to admit the finger very readily, which went over the surface of a smooth mass in the uterine cavity. This led me to think that it was a fibroid tumor with a broad base, probably a submucous tumor, which gave rise to the

hemorrhage. On that supposition I placed her on the ergot treatment and kept it up for a week, twenty drops of the fluid extract every six hours. This gave rise to such severe attacks of pain that the patient could not bear the treatment any longer, but it had the effect of diminishing the flow of blood and increasing the dilatation of the cervix. I took pity on her on account of the pain and gave a couple of hypodermic injections of morphine; when the pain ceased, the cervix began to contract again and soon reached its normal size, and the patient recovered from the acuteness of the disturbance, but the hemorrhage still continued, accompanied with a flow of mucus. I attended her from the 16th of September until the 14th of October; as she was getting along pretty well, I supposed the action of the ergot would gradually force this mass down so that it could be removed. My visits ceased and I heard nothing more from the patient, except an occasional report that she was getting along in the same way, until the 10th of December, when her husband came into my office and showed me a little piece of bone, or a piece of hard substance that looked like bone, which he said his wife had picked off the napkin. It had the appearance of fetal cranial bone. He asked me what it meant, and I told him I could not say, but would see his wife. On inquiry, I found that the flow of blood had ceased, but the flow of pus had increased, and occasionally there was extruded a piece of this bony substance. On digital examination, I discovered the os and cervix filled with particles of this bony substance, and after removing them I found it impossible to introduce my finger into the cervix. The external tumor was reduced considerably in size, and was low down in the pelvis, and could be felt projecting through the anterior vaginal wall. I then decided to dilate the cervix. I introduced as many tupelo tents as I could get into the cervix—at first but two of fair size—to their full length, and allowed them to remain there over night, when I removed them and introduced four more. That evening I removed them, and the cervix was dilated so that I could easily introduce my finger. As I had examined the uterus with the sound at my first visit, and it went around this mass to its full length, I supposed I had nothing but a fibroid to deal with. When I had dilated the cervix with these tupelo tents, I found I could not get at the mass of the growth, my finger going into the cavity of the uterus. At the distance of one joint and a half inside the cervix, I found a little opening, and projecting through this opening—about as large as the end of a pencil—were some of these particles of bone. Then the query arose, how was I to get into this cavity, and what was it? a double uterus, with multiple pregnancy at the last conception—one delivered and the other retained? I was at a loss to know what it was, but finally concluded it to be an intra-mural pregnancy. I had the particles examined under the microscope, and they showed the structure of fetal bone. Then I thought of using the tents, to increase the dilatation, but was troubled with the fear that I should have a severe septicæmia come on as soon as this outside cavity was opened to air. But I was convinced that unless I tried to do something, the patient would pass out of my hands; so I decided to keep on with dilatation. On the 20th of December I began introducing the tents, and within two or three days after their removal, the cervix was again contracted so that it would not

admit the finger. I introduced the tents again, and met the same difficulty in exposing the mass. The thought struck me that if I could not get the large body out of the small opening, I could diminish the size of the mass; so I introduced small forceps into this opening, and took it away piecemeal. All this time I had the entire uterus under my command, because it was an easy matter to bring the cervix down to the vulvar orifice. On the 24th, I introduced tents and dilated it, so that I could introduce two fingers very readily, and finally got one of my fingers into the opening in which this body (indicating the specimen) was found. I then began to separate it and pull it away, getting hold of it with strong forceps. Sometimes I succeeded in bringing away a large mass of flesh, which looked exactly like that from a macerated fetus, the skin macerated and parchment-like. This was continued up to the 30th. Passing over the New Year, and allowing the patient to rest without interference, on January 9th, I introduced four tupelo tents, a little longer than the ordinary, and fortunately succeeded in getting one or two into the opening in which the body was found; so when I removed them that evening, I was enabled to bring away the entire mass and pass the finger into the cavity afterwards. It was very irregular, as though the uterine tissues had been forced into the irregularities of the foreign body. Since that time the patient has improved, the bleeding has ceased, the uterus has diminished in size, and she is up and about the house. I have had all parts of this specimen examined under the microscope. The fleshy mass shows connective tissue, muscular fibres, blood-vessels and hairs. The osseous material shows all the characteristics of fetal bone.

## DISCUSSION.

The PRESIDENT. Was there a history that would lead you to suppose, that at any time during her invalidism there was a pregnancy, or a pelvic hematocoele, or anything of that kind?

DR. PARKES. At the time of her last pregnancy, she was very large and yet was delivered of a child that weighed but six pounds. Her abdomen was very large for some time after the delivery of this child. Again, there is a history several years back, of a period when menstruation ceased, and she supposed she was pregnant, but nothing came of it.

DR. W. W. JAGGARD said the interesting specimen presented by Dr. Harkes was a typical lithopædion—a calcareous capsule, containing the fetal structures infiltrated with lime salts.

He thought the diagnosis of interstitial pregnancy highly probable. It was impossible to make a positive diagnosis without a post-mortem examination of the maternal organs. Carl Braun<sup>1</sup> was responsible for the statement that the formation of a lithopædion occurred only in case of extra-uterine pregnancy. Spiegelberg,<sup>2</sup> however, indicates that this proposition is too general. The formation of a *uterine lithopædion* occurs infrequently in the human female, but is not unusual in ewes. Koerber<sup>3</sup> extracted by abdominal section a lithopædion from the rudimentary horn of a *uterus bicornis*.

The formation of a lithopædion, therefore, was not a reliable sign in the differential diagnosis between uterine and extra-uterine pregnancy.

## RHODE ISLAND MEDICAL SOCIETY.

GEORGE D. HERSEY, M.D., SECRETARY.

THE usual quarterly meeting was held in Providence, March 17, 1887, the President, DR. HORACE G. MILLER, in the chair.

A communication was received from the Secretary of State, announcing that the General Assembly had amended the charter of the Society, granting power to hold real and personal property to the amount of one hundred thousand dollars. The Society voted to accept the amendment.

The President appointed a Building Committee of five members, namely, Drs. J. H. Eldredge, of East Greenwich; Lloyd Morton, of Pawtucket; and J. W. Mitchell, G. T. Swarts, and G. D. Hersey, of Providence.

DR. GEORGE L. COLLINS was appointed to serve on the Library Committee, in place of Dr. O. C. Wiggins, resigned.

Delegates to the American Medical Association were elected as follows: Drs. H. G. Miller, Albert Potter, J. W. Mitchell, J. H. Eldredge, George W. Jenckes, A. G. Browning, H. Canfield, L. Morton, G. T. Swarts, W. R. White, M. Fifield, J. H. Morgan, H. Terry, A. E. Tyng, H. R. Storer, C. V. Chapin, W. J. Barge, and W. B. Goldsmith.

DR. F. T. ROGERS reported

## A CASE OF TUBAL PREGNANCY.

The patient, twenty-two years of age, married three years, fell unconscious from her chair in a hotel dining-room, and was carried into an adjoining waiting-room, where unavailing efforts at resuscitation were made. On the physician's arrival, he was unable to revive the patient with hypodermic injections of brandy and ammonia, and she died two hours after the attack, no history of pregnancy having been obtained. It was afterwards learned, however, from her husband, that she had passed the catamenial period two weeks; and a *post-mortem* examination revealed a six-weeks fetus in the dilated right Fallopian tube, a ruptured sac, and copious hæmorrhage into the abdominal cavity. In this case no accurate diagnosis could be made, on account of the imperfect history; and laparotomy, the only possible procedure offering relief, was not suggested.

Dr. Rogers also presented photographs of an unusual monstrosity. A female child, weighing eight and a half pounds, had a soft tumor at the base of the cranium, nearly as large as the head, and a shining, tense enlargement of the labia majora, to which the funis was attached. Dissection was forbidden by the parents; but, fortunately, a good photograph of a frozen section in the median line was secured. The occipital was entirely disconnected from the other cranial bones, having a rudimentary foramen magnum, but no articular condyles. The first cervical vertebra articulated with what was probably the sphenoid, and the vertebral column terminated between the spines of the scapulae. Between this point and the pelvis there was no bony structure. The anterior tumor contained brown, gelatinous fluid, with some folds of intestines. The anus was imperforate.

DR. C. M. GODDING exhibited a carefully-mounted specimen of malformation from an infant which lived two days. The rectum and bladder emptied into a common cloaca, with which a rudimentary uterus was

<sup>1</sup> Lehrb. d. g. Gynæk., 1861, p. 128.

<sup>2</sup> Lehrb. d. Geburtshilfe, 1882, p. 312.

<sup>3</sup> Glas, hebbl. No. 34, 1886.

also connected. The child had also a malformation of the heart, there being an entire absence of the ventricular septum.

Dr. W. R. WHITE reported

A CASE OF ACUTE INDIGESTION IN A PRIMIPARA, aged eighteen years, who had eaten a hearty Thanksgiving dinner the day previous. At the beginning of the second stage of labor, the pulse, previously 80, suddenly fell to 48, and fetal heart-sounds could no longer be recognized. Labor was speedily completed, and the child, apparently dead, was resuscitated with difficulty. The mother's pulse remained at 48; she complained of headache and photophobia, and in the evening was delirious, with a temperature of 102°. These serious symptoms all disappeared after profuse vomiting; pulse and temperature became normal, and the patient made a good recovery.

Dr. ELY suggested that toxic ptomaines developed from fermenting, undigested food might cause such results as were described.

Dr. E. B. SMITH reported

A FATAL CASE OF PULMONARY GANGRENE FROM PYEMIA, FOLLOWING AN ABSCESS IN THE GLUTEAL REGION.

The patient, a woman, aged twenty-two, had otherwise been in good health.

Dr. R. F. NOYES reported

A CASE OF HYDATIFORM TUMOR OF THE LIVER, and exhibited mounted specimens of the echinococcus. The patient, a stevedore, aged forty-two, was admitted to Rhode Island Hospital, with pulse 110, respirations 30, and temperature 100°. The liver somewhat enlarged, its surface smooth. No nodules or tumor could be felt. Tenderness and pain were caused by pressure over the posterior portion of the right hypochondrium; and spontaneous pain was complained of in this region, and through the right thorax and shoulder. Examination of the chest revealed nothing abnormal, except that hepatic dulness was higher than normal. Considerable cough and expectoration, the sputa containing numerous cells, resembling pearls of tapioca. The day following, the pain increased; pulse and respirations were more hurried; temperature sank to 97°, and there was marked bulging of the right side of the thorax, with flatness on percussion, and almost entire absence of respiratory murmur. The patient became cyanotic, and died two days after admission.

Autopsy. The thoracic cavity contained five pints of yellowish opalescent fluid, floating in which were a multitude of small cysts. The parenchyma of the lung was ulcerated in several places and communication thus established with the bronchi. Upon the under surface of the right lobe of the liver was found a cavity of the capacity of three pints, filled with yellowish fluid in which were thousands of transparent cysts. The cavity communicated with the thoracic by an ulceration through the diaphragm.

Dr. G. T. SWARTS read a paper on the

PURIFICATION OF WATER FOR DRINKING PURPOSES, and exhibited and explained the construction of the Luther, Aborn, Acorn, Gem, Ideal, Diamond and Howe filters, and gave the results of a series of experiments he recently made to test their value in filtration of micro-organisms. These filters were arranged

upon the same line of pipe in the Bacteriological Laboratory of Harvard Medical School. A faucet was left on the same line of pipe beyond the filters for drawing the water for the unfiltered analysis, and a faucet beyond that to draw off any sediment which might accumulate, as is usually the case in a "dead end," however small the pipe.

All the filters were tested at the same time and under the same conditions as follows:

Water was drawn from the last faucet until it was evident that all air and detritus had been washed from the section of pipe to which the filters were attached. About four litres of water was then drawn through each filter to remove any dirt and dust which might be left in them from packing and putting together. From each filter 50 cc. of water was then drawn into a sterilized Erlenmeyer's flask having a sterilized cotton plug. One cc. was then taken from the flask with a sterilized pipette and mixed with 10 cc. of sterilized nutrient ten per cent. gelatine (Koch's formula), and flowed upon a sterilized glass plate, which was placed upon a glass slab over a jar of powdered ice, and the whole protected with a sterilized bell-jar until the gelatine had hardened. This plate culture was then placed in a sterilized glass chamber with moisture, and allowed to remain for forty-eight or seventy-two hours in a room at a temperature of 70° F., at the end of which time each individual microbe or micro-organism introduced with the water into the gelatine, has grown by its own multiplication an individual colony. The colonies in each culture were then carefully counted and compared with a similar culture made with unfiltered water.

The results obtained show that some filters on the first use successfully removed a certain proportion of organisms from the water. A test made seventeen days later showed in every case a marked increase in the number of colonies in the filtered as compared with unfiltered water. For instance, the unfiltered water contained thirty-six colonies of growth while the filtered water showed the presence of colonies to the number of 2,000, 9,000, and 10,000. An examination on the seventieth day showed an increase in case of one filter, of 117,000 colonies.

Other experiments were made to determine how far the consumer could cleanse his filter or sterilize it in some simple manner. The results showed, however, that even with every possible precaution, the number or organisms in filtered water exceeded the number in the unfiltered by several thousands.

These experiments go to show conclusively that the organic matter retained in the meshes or interstices of the filtering media, contain organisms which increase rapidly while the filter is or is not in use, and especially if its position is in a heated kitchen or in proximity to a hot-water pipe.

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—The late Dr. Wakley, editor of the *Lancet*, bequeathed to his *alma mater*, University College, London, his freehold residence, Heathlands, Longcross, Chertsey, and eight acres of land, for the uses of a convalescent home for patients from that hospital, to be called the Wakley Convalescent Home, in memory of his late father, Thomas Wakley, the founder of the *Lancet*. He also gave \$5,000 towards the maintenance of the Home.

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**CACHEXIA STRUMIPRIVA.**

At the Naturforscher-Versammlung in Berlin, on September 23, 1886, the connection of this affection with total extirpation of the thyroid gland was discussed.<sup>1</sup> Eighteen cases in which the operation had not been followed by cachexia strumipriva were reported by Baumgärtner and Bardeleben. The former thought that many of the dangers attending the operation could be avoided by improved technique; and that it would be wrong to reject the procedure as unjustifiable. No satisfactory explanation of the apparent connection of cachexia strumipriva and thyroidectomy was offered.

Notwithstanding the above opinion it is far from being universally accepted that one can surely avoid such disastrous consequences of the operation in question as cachexia strumipriva or tetanus, and in view of this fact partial resection,<sup>2</sup> extirpation of the isthmus, and parenchymatous injection, or electrolysis have been recommended as substitutes.

But these methods, aside from not being always applicable, have also several disadvantages which influence unfavorably the result of the operation.<sup>3</sup> For this reason Wölfler<sup>4</sup> proposes anew<sup>5</sup> the ligation of the thyroid arteries, and claims that the former failures following this procedure were due to secondary hæmorrhage resulting from unskilful or improper after-treatment of the wound. Also that the inferior thyroid artery was not ligated. Wölfler found that ligation of the thyroid arteries in dogs was followed by a marked contraction of the gland without gangrene ever occurring. Accordingly in a male patient, aged twenty-nine, whose uniformly enlarged gland had caused alarming dyspnoea, Wölfler ligated the right superior and inferior thyroid arteries. The result was surprisingly satisfactory; for not only was

the patient rescued from immediate danger, but seven months later the right lobe was found to have contracted to less than one-half its former size, while the left had also become somewhat smaller. The anatomical reasons for the ligation of both superior and inferior arteries, and the technique of the operation, are fully stated in the original publication of the author.<sup>6</sup> Attracted by Wölfler's success on October 8, 1886, Weinlechner<sup>7</sup> ligated both superior thyroid arteries in a patient whose right thyroid lobe equalled in size a man's fist. The left lobe was also enlarged but to a less degree. The indications for operative interference were excessive dyspnoea, and cyanosis. The reported result was even more striking and satisfactory than in Wölfler's case; for on the twenty-seventh day after the operation the gland was found to measure seven cm. less in circumference than at the time of its performance, while in Wölfler's patient, when the inferior and superior thyroid arteries on the same side were ligated, the amount of contraction recorded at the end of seven months was only six cm.

The marked success of these cases surely warrants a thorough test of this method and their final termination will be awaited with deep interest, especially since a review of the investigations and opinions regarding the function of the thyroid, and the results caused by its removal in man and animals, shows thus far only a conflict of opinion. One class of observers believes that the function of the organ is unimportant to the animal organism, while an opposite view is held by the opponents to this theory.

This unsatisfactory state of uncertainty and the importance of discovering the true value of surgical treatment in these distressing cases has incited F. Fuhr<sup>8</sup> to an extensive series of experiments for the purpose of ascertaining: (1) If the thyroid gland is an organ important to life. (2) An explanation for the contradictory opinions and experimental results. (3) In case thyroid extirpation is unimportant what explanation there is for the remarkable group of symptoms reported to have followed the operation by so many different observers. The conclusions of this laborious and carefully conducted investigation are: (1) That extirpation of the thyroid gland in dogs, whether complete at one operation or gradual, is always fatal with symptoms referable to disturbances of the central nervous system. The significance of these symptoms is not, however, positively established since an organ whose function is presumably that of regulating the blood tension of the central nervous system, and especially of the brain, has been annihilated. (2) The group of symptoms that the dogs presented cannot be the result of some injury of surrounding structures at the time of operation, or of a septic process. (3) If a dog survived the operation it was because at least one third of the main gland remained in the form of one or more accessory glands. (4) That other experimenters who have obtained dif-

<sup>1</sup> Berl. Klin. Wchnschr., October 4, 1886, page 687.

<sup>2</sup> Mikulicz Wien. Med. Wchnschr., 1886, I, 2, 3, 4.

<sup>3</sup> Wien. Med. Wchnschr., xxxvi, 29.

<sup>4</sup> V. Die operative Behandlung des Kropfes durch Unterbindung der zuführenden Arterien. Wien. Med. Wchnschr., 1886, xxxvi, No. 29, 30.

<sup>5</sup> Johann Moys. Neue vorläufige Praxis der Wundkürzte. Frankfurt, 1629.

<sup>6</sup> Loc. cit.

<sup>7</sup> Wien. Med. Presse, 1886, No. 46.

<sup>8</sup> Arch. f. Experim. Path. u. Pharmacol., 1886, xxi, 5, u. 6, p. 387.

ferent results have either mistaken other structures for the thyroid, or have failed to completely remove the true gland. Fuhr concludes by saying that physiologically it does not require another half-hundred of unfortunate victims to prove the doubtful value of total extirpation whatever may be its justification from the present surgical standpoint.

That the above results are correct, time and subsequent experience can alone demonstrate, but they are surely rational, and if true will go far to harmonize the conflict of opinion now met on every hand.

Before dismissing this important subject it is perhaps advisable to call attention to another expedient to avoid the dangers apparently consequent to total extirpation offered by the intracapsular enucleation operation of Professor Socin, the so-called intra-glandular or "shelling out" removal of the diseased areas only, which Garré,<sup>2</sup> of Bâle, has strongly advocated. It is assumed that total extirpation is an unjustifiable operation, and in a large proportion of the cases of goitre submitted to operation the disease appears in circumscribed masses, each separated from healthy gland tissue by a capsule of greater or less thickness. The operation consists in "shelling out" these diseased centres after opening the capsule. To those interested in this method Müller's report of Brun's<sup>3</sup> cases is of value.

The latest reports in regard to the results of applying electrolysis to goitre seem to promise safe and favorable results.

#### THE FOURTH DECENNIAL CENSUS OF MASSACHUSETTS.<sup>1</sup>

The first part of the first of the three volumes on the Census of 1885 is devoted to population and social statistics, as Part II will also be. Volume II will deal with manufactures, the fisheries and commerce; Volume III will relate to agriculture, property, mines, pits and quarries, both to be ready this year.

The collection of statistics has been by 570 enumerators appointed by the Bureau of Statistics of Labor, as required by law, upon the recommendation of selectmen of towns and mayors and aldermen of cities; the result of which has been that the head of the bureau recommends that in future enumerators be appointed by the Civil Service Commission, as the clerical force is already appointed. The work, as a whole, is very satisfactory, however, the bad work of the enumerators "who proved unfit for any duty requiring care and integrity" having been supplemented by re-enumerations or by careful corrections.

The population increased 290,229 from 1875, from 1,651,912 to 1,942,141 or 17.57 per cent. as compared with 30.38 per cent. from 1865 to 1875.

The males in 1875 numbered 794,383, and repre-

sented 48.09 per cent. of the population, whereas the females were 857,529 in number, or 51.91 per cent. In 1885 the males numbered 932,884, or 48.03 per cent. of the population, while the females numbered 1,009,257, or 51.97 per cent., an excess of females over males of 76,373, or 108.19 females to 100 males. In 1840 the excess of females over males was but 7,672, or 102.13 females to every 100 males; in 1855, 32,301, or 105.87 females to every 100 males; in 1865, 63,011, or 110.46 females to 100 males; in 1875, 63,146, or 107.95 females to 100 males. Two cities representing a population of 42,486, or 2.19 per cent. of the whole population, show an excess of 1,756 males, while 21 cities, with a population of 1,045,010, or 53.81 per cent. of the total population, show an excess of 58,000 females. 124 towns, having a population of 229,816, or 11.83 per cent. show an excess of 5,706 males, while 198 towns, representing a population of 622,955, or 32.07 per cent. show an excess of 25,835 females.

Boston and its suburbs, representing 574,249 people, contain 29.57 per cent. of the entire population of the State. The same cities and towns had in 1875 a population of 480,419, the gain within this limit during the past ten years being 93,830, or 19.53 per cent. The cities and towns within a radius of twelve miles from the State House have a population of 731,746, or 37.68 per cent. of the population of the State. The population of the cities and towns within this circle in 1875 was 603,909, a gain of 127,837, or 21.17 per cent. during the last ten years as compared with 17.57 for the State, or 23.66 per cent. for the cities and 10.64 per cent. for the towns. Boston, with a population of 390,393, comprehends 20.10 per cent. of the population of the State; eight towns, ranging in population from 30,000 to 70,000, represent 20.84 per cent. of the population; 22 towns, ranging in population from 10,000 to 30,000, represent 20.06 per cent.; 85 towns, ranging in population from 3,000 to 10,000, represent 22.60 per cent., while 232 towns, ranging in population from less than 500 to 3,000, represent 16.40 per cent. only.

Massachusetts has a population of 241.56 to the square mile. In 1880 it had 221.8 to the square mile as compared with Rhode Island 259.9, New Jersey 151.7, Connecticut 128.5, New York 106.7, Pennsylvania 95.2, Maryland 94.8, Ohio 78.5, Delaware 74.8, Minnesota 9.8, Texas 6.1, the United States 13.92, Belgium 481.71, the Netherlands 312.86, Germany 216.62, Switzerland 177.10, Austria-Hungary 156.98, Great Britain and Ireland (1881) 289.92, France (1881) 180.88.

By law, every male twenty years of age residing in the State on the first day of May in any year, and not a pauper or exempt by law, is a poll, and should be taxed as such. The Census reports the number of such persons on May 1, 1885, to be 567,959, this number being 29.24 per cent. of the whole population. Of this number 442,616, or 77.93 per cent. of the whole number of polls, are given as legal voters;

<sup>1</sup> The Census of Massachusetts, 1885. Prepared under the Direction of Carroll D. Wright, Chief of the Bureau of Statistics of Labor. Volume I. Population and Social Statistics, Part I. Boston, 1887.

<sup>2</sup> Centib. f. Chir., 1886, No. 45.

<sup>3</sup> Intracapsular Extirpation of Thyroid Cysts. E. Müller. Ann. of Surg., August, 1886.

26,212, or 4.62 per cent. of the number of polls, as not voters; and 99,131, or 17.45 per cent. as aliens; that is, men of foreign birth, who have not secured citizenship.

The whole number of voters, those who might vote were it not for non-payment of poll-tax or failure to become naturalized, is 412,616, as against 351,113 in 1875; the voters in the latter year formed 21.25 per cent. of the whole population, while now they constitute 22.79 per cent. Of the 99,131 aliens 35,600 are Irish, 33,754 from British America, 13,937 from Great Britain, 14,578 from various countries of Europe, 347 from China.

The whole number of aliens in the State, or 99,131, constitutes 48.07 per cent. of the whole number of foreign born males 20 years of age and over, the latter being 206,227; that is to say, of the latter number of foreign born males 20 years of age and over, 48.07 per cent. have not been naturalized. This total number of aliens as distributed by place of birth shows some interesting features. For instance, of the total number of males 20 years of age and over born in British America, or 49,534, those not naturalized are 33,754, or 68.14 per cent. They are subdivided, as follows: of 5,307 English Canadians, 3,181, or 59.94 per cent.; of 22,427 French Canadians, 17,292, or 77.10 per cent.; of the total number of males 20 years of age and over born in Nova Scotia, or 13,645, those not naturalized, or aliens, number 8,703, or 63.78 per cent.; of 5,041 males 20 years of age and over born in New Brunswick, 2,799, or 55.52 per cent., are not naturalized; of 1,011 males 20 years of age and over born in Newfoundland, 470, or 46.49 per cent. are not naturalized, while 1,303 out of a total of 2,090 males 20 years of age and over born in Prince Edward Island, or 62.34 per cent., have not become naturalized. The Chinese males 20 years of age and over number 383; of this number 347, or 90.60 per cent. are still aliens. The foreign born males 20 years of age and over from the Continent of Europe, not including Great Britain and Ireland, number 25,408; of this number 14,578, or 57.38 per cent., are still aliens. The highest percentage of aliens coming from Europe is shown for Italy, there being 2,190 males 20 years of age and over and 1,874 aliens, or 85.57 per cent. The aliens born in Portugal, or 2,175, represent 75.05 per cent. of the 2,898 males 20 years of age and over born in that country. The Germans have naturalized to a large extent, for out of 10,908 males 20 years of age and over, 4,473, or 41.01 per cent. only, have not become citizens. Looking at Great Britain and Ireland, we find that the Irish born males 20 years of age and over number 98,199, of which number 35,600, or 36.25 per cent. only, are still aliens, the Irish thus ranking all other nationalities in the extent to which they become naturalized. Of the English males under consideration, 45.00 per cent. have not become naturalized, while 49.76 per cent. of the Scotch have not taken on American citizenship.

The average size of families is 4.58. Blacks (10,446), mulattos (5,038), Chinese (278), Japanese (10,) and Indians (520), constitute the same percentage of the population as in 1875, namely, 0.99.

The number of single males is 531,113, or 56.98 per cent. of the whole number of males, while the number of single females is 539,038, or 53.41 per cent. The number of married males is 368,457, or 39.50 per cent. of the whole number of males, while the number of married females is 371,129, or 36.77 per cent. The total married persons number 739,586, or 38.08 per cent. of the whole population. In 1875, 39.06 per cent. of the whole population were married. The number of widowed males is 32,154, being 3.45 per cent. of the total number of males, while the number of widowed females is 97,158, or 9.63 per cent. The divorced males number 1,037, while divorced females number 1,919. This difference is undoubtedly due to the fact of desertion on the part of the husband, leaving the wife within the Commonwealth to seek her divorce.

In 1885, 688,284 males, or 73.78 per cent. of the total males, are native born; and 244,600, or 26.22 per cent., foreign born, as against 74.86 per cent. native born and 24.68 per cent. foreign born, respectively, in 1875. For females, 726,990, or 72.03 per cent., are native born, as against 73.60 per cent. in 1875; and 282,267, or 27.97 per cent., are foreign born, 25.98 per cent., in 1875, being foreign born.

Of native born males, 20 years of age and over, 32.20 per cent. are single, and 62.19 per cent. are married. Of foreign born males of similar age, 25.90 per cent. are single, and 67.92 per cent. are married. For single females, the percentages are 29.09 for native born and 25.67 for foreign born; while, for those who are married, we find 57.97 per cent. foreign born, and 56.16 per cent. native born.

The number of males 80 years of age and over in the State is 5,892, and of females, 9,624. The average age for males is 28 years and 3 months; 29 years and 2 months for females; and 28 years and 9 months for both sexes. In 1875, the average age for males was 27 years and 6 months, and for females, 27 years and 10 months, or an average age for the whole people of 27 years and 8 months. The average death age for 1885, as given in the Massachusetts Registration Report, is 34.23 years. The average age of the population above 20 years is, for males, 40 years and 7 months; for females, 40 years and 11 months.

A very interesting table is given of the nativity of the population, the abbreviations used being *n*, for native; *f*, for foreign; and *unk*, for unknown.

The total population of the city of Boston, or 390,393 persons, includes 121,720 native born persons of native parentage, which is 47.34 per cent. of the whole number of native born persons in the city; while there are 503 foreign born persons of native parentage. Of the whole number of persons having foreign parentage, 102,786, or 39.98 per cent. of the total native born, are of native birth, that is, were born in

this country. The total number of foreign born persons having foreign parentage is 130,896, or 98.20 per cent. of the total foreign born, making a total of 233,682 persons, or 59.86 per cent. of the total population of the city having foreign parentage. The persons of native parentage represent 31.31 per cent. of the total population; and persons of mixed and unknown parentage, 7.16 and 1.67 per cent., respectively.

PARENT NATIVITY	Popula'n	NATIVE BORN.		FOREIGN BORN.	
		Males	Females	Males	Females
THE STATE.	1,942,141	688,284	726,990	244,600	282,267
Both Parents, n . . .	855,491	407,018	448,621	966	1,286
Father, n, mother, f . .	52,083	24,530	28,519	844	1,192
Father, n, mother, unk .	7,138	4,430	2,672	51	12
Father, f, mother, n . .	67,656	31,499	33,967	955	1,295
Both parents, f . . .	919,869	198,238	204,965	289,760	276,976
Father, f, mother, unk .	1,285	552	305	291	187
Father, unk, mother, n .	7,838	4,364	3,433	19	22
Father, unk, mother, f .	1,281	698	541	128	104
Both parents, unk . . .	29,398	16,455	9,914	1,756	1,273

There are 576,597 persons in the State whose mothers were born in Massachusetts; of this number of persons, 575,092 are native born persons, and 1,505 foreign born persons. Of the whole number of persons having mothers born in Ireland, or 556,952 persons, 293,245 are native born, that is, born in this country, while 263,707 are foreign born. The total number of persons having fathers born in Ireland is almost exactly the same as for persons having mothers born in that country. For Great Britain, there are 132,333 persons in Massachusetts having fathers born somewhere in Great Britain, and 119,804 persons whose mothers were born in Great Britain. Although 72.87 per cent. of the persons are native born, but 48.05 per cent. of the total fathers, and 48.89 per cent. of the total mothers, are native born. The total persons born in Massachusetts represent 57.54 per cent. of the total population; but the fathers born in Massachusetts represent only 29.87 per cent. of the total fathers, and the mothers born in Massachusetts but 30.28 per cent. of the total mothers. Analyzing the percentages of foreign born, we find that the foreign born persons constitute 27.13 per cent. of the total persons; while the foreign born fathers constitute 51.95 per cent. of the total fathers, and the foreign born mothers 51.11 per cent. of the total mothers.

There are 568,633 persons in the State whose fathers were born in Massachusetts. Of this number of fathers, 449,140 married Massachusetts born women; 83,013 married women born in other parts of the United States, while 31,443 married foreign born women. There are 346,081 persons who had fathers born in other parts of the United States than Massachusetts, these fathers marrying 79,450 Massachusetts born women, 243,888 women born in other parts of the United States, and 20,643 foreign born women. There are 988,810 persons whose fathers are foreign born. Of these foreign born fathers, 42,648 married

women born in Massachusetts; 25,008 married women born in other parts of the United States, while 919,869 married foreign born women.

Similar facts as regards intermarriage for mothers are, also, shown: There are 576,597 persons having Massachusetts born mothers; these mothers having married 449,140 men of Massachusetts birth, 79,450 men born in other parts of the United States, and 42,648 men of foreign birth. Of the mothers born in other parts of the United States than Massachusetts, that is, the mothers of 354,388 persons, 83,013 married Massachusetts born men; 243,888 married men born in other parts of the United States; and 25,008 married foreign born men.

#### ON CHRONIC POISONING BY TOBACCO.

At a meeting of the Royal Imperial Society of Physicians of Vienna, held February 18th, Favarger made a communication on the above old, but ever new subject, of which the subjoined is a *résumé*. The symptoms of chronic nicotineism do not generally manifest themselves till after the usage of strong tobacco for ten years or more, and ordinarily follow the free smoking of Havana cigars. As for the manner of smoking, there are four types of smokers:

(1) Those who swallow the smoke; in these cases the nicotine acts probably, directly on the stomach; (2) Those who only breathe in and breathe out the smoke: here the detrimental action remains limited to the pharynx and the larynx; (3) Some smokers keep their cigar constantly between their lips, and are in the habit of swallowing a certain quantity of nicotine mingled with their saliva; (4) There are other smokers who use cigar-holders that are soon fouled with nicotine, and are never properly cleaned.

Chronic poisoning by nicotine manifests itself generally by disturbances of the circulation and digestion. One of the most frequent symptoms is palpitations, then next in the order of frequency is cardiac asthma, and still more rarely occur attacks of angina pectoris. Physical examination of the heart gives sometimes negative results, and sometimes reveals the existence of chronic myocarditis, or of fatty degeneration of the heart. Among the digestive derangements are noted: loss of appetite, pain in the epigastric region, diarrhoea, or constipation. Among the symptoms pointing to disorder of the nervous system are insomnia and attacks of syncope.

Favarger reported a remarkable case of fatty degeneration of the heart in a man aged sixty, who had been for many years an inveterate smoker of strong Havanas. Several weeks before his death, he was attacked after a meal with violent palpitations, and a paroxysm of dyspnoea came on the next day. Till the time of his death, the temperature remained low, (from 34.6° to 36.6° C.); the pulse very frequent and small (140 to 160), and the pupils much contracted. At the autopsy were found pleuritic exudations, dila-

tation, with fatty degeneration of the heart, and an ulcer of the stomach, which had determined a mortal hemorrhage.

In this case, said the reporter, the fatty degeneration of the heart could not be attributed to alcoholism, or any other known cause, except that which was the most obvious, namely, the excessive use of tobacco. This view was confirmed by the abnormal frequency of the pulse, by the great fall in the bodily temperature, and by the contraction of the pupils. Although no arterial atheroma was noted, there existed, nevertheless, in this case a functional stenosis (?) of the coronary arteries, equally attributable to nicotine, and to this constriction of the nutrient arteries of the heart causing ischemia, was due presumably the fatty degeneration of that organ.

As for the ulcer of the stomach, it may have been directly engendered by the topical action of saliva impregnated with nicotine, or it may have been the result of circulatory disturbances, according to the process indicated by Rokitsky and Virchow.

As for the treatment of chronic nicotineism, Favarger recommends as prophylactic means: (1) Never to smoke when the stomach is empty but always after a meal. In this way the number of cigars smoked will be limited, the nicotine will be made to act on a full stomach, loss of appetite will be prevented, and the antidotal ("anti-nicotine") action of the tannin contained in the wine, tea or coffee of the meal will be obtained. Tannin, according to Favarger, is the best antidote to nicotine. (2) Smokers should avoid holding their cigars long in their mouths. (3) Cigar-holders should be frequently renewed, and regularly cleansed. Smokers should smoke the milder cigars occasionally, instead of always choosing the strongest.

According to Erlenmeyer<sup>1</sup> smoking cigars is vastly more injurious than smoking a pipe, because the preparation of tobacco for the latter purpose destroys as much as two-thirds of its nicotine, while the former loses but little of its active principle in the manufacture.

More than twenty-five years ago, Dr. B. W. Richardson presented the following conclusions as the result of an exhaustive study of the effects of tobacco-smoking:

(1) The effects produced are very transitory. (2) The evils of smoking are functional in their character, and statements that it causes insanity, epilepsy, chorea, apoplexy, organic disease of the heart, cancer and consumption, are devoid of fact. (3) The habit of smoking is deleterious to the young. (4) Tobacco is a luxury, but probably the least hurtful of the luxuries. Stillé, in commenting on these propositions, remarks that there are several diseases not enumerated by Dr. Richardson, which excessive smoking unquestionably develops. One of these is amaurosis, many cases of which have been traced to tobacco-smoking by no less competent authorities than Mackenzie and Siebel. "The former, many years ago, hinted his

suspicion that it is a frequent cause of amaurosis, and the latter is now of opinion that there are few persons who have smoked during a long period more than five drachms of tobacco per diem, without having their vision, and frequently their memory impaired." Farnsworth, in the *American Medical Times* (October, 1862), cites a case of impaired vision from the same cause with general anesthesia. "In spite of a well-directed treatment, the disease grew worse until the discovery was made that the patient was in the habit of smoking a pipe almost continually with the coarsest kind of tobacco. On relinquishing this practice he gradually recovered."

### THE LATE AUSTIN FLINT, M.D.

#### IN MEMORIAM.

THIS week, there is to be unveiled, at Bellevue Hospital, New York, a tablet in memory of the late Dr. Austin Flint, which is erected by the Commissioners of Charities and Correction. It consists of a large and massive plate of brass, set in a panel of antique oak, and was made by the Gorham Manufacturing Company. The inscription, which is in Roman letters of black enamel, with initials in red enamel, and surrounded by a band of conventional palm-leaves, relieved, at intervals, with neat scroll work, reads as follows:

#### IN MEMORY OF AUSTIN FLINT, M.D., LL.D.

Entering the profession with broad culture and thorough education, he remained an active physician to the last day of his life. As a medical writer, he added to the knowledge of the American profession and to medical science. As a teacher, he was loved and respected by thousands of his pupils in all parts of the country. As physician to Bellevue Hospital for twenty-five years, he contributed largely to its reputation by his character, acquisitions, labors, and wise counsels.

Erected by the Commissioners of Public Charities and Correction: H. H. Porter, President; Thomas S. Brennan, Charles E. Simmons.

This will be recognized by the profession throughout the country as a well-earned tribute and suitable memorial, at the seat of his later labors, of one of the foremost medical writers, teachers, and practitioners which our country has yet produced—a man whom New England claims as a son.

### MEDICAL NOTES.

—Sir Henry Thompson appeals to the medical public in protest against the use of his name in the advertisements of Friedrichshall mineral water, which he named once in a lecture, twenty years ago, with approval. This was when there were only one or two laxative mineral waters in England, and he no longer endorses the original statement. But the advertisers persist in the use of his name, and he cannot help himself, except by an occasional disclaimer in medical journals.

—The Faculty of Medicine in Berlin has issued a schedule of studies for its students, in which the

<sup>1</sup> Stillé, *Therapeutics*, Vol. II, p. 320.

latter are strongly advised to follow courses in meteorology, mineralogy, geology, anthropology, psychology, and logic. The plan, of course, is not obligatory; but while the Faculty uses no compulsion upon its students in the matter, it holds itself competent to give them good advice.

— Professor Dobroslavine, of St. Petersburg, recommends, as a means of purifying (clarifying?) drinking-water, the addition to each twelve liters of water of fifty centigrammes of perchloride of iron and seventy centigrammes of crystallized carbonate of soda. He claims that the precipitate thus formed carries with it all suspended impurities, leaving the water, after forty-five minutes, perfectly clear.

— The United States Minister at Santiago, under date of January 15, reports cholera as slowly extending along the valley of the Aconcagua, following the course of the river to the sea, near Valparaiso. About 600 cases had been reported up to that date, of which about 250 had proved fatal. The victims were almost exclusively confined to the poorer classes. A dispatch dated February 15th, at Santiago, gave the number of cases from Saturday to Monday noon as 435, and the deaths at 213.

— Dr. J. C. Cutter, a graduate of the Harvard Medical School, and a former house-officer at the Boston City Hospital, who went to Japan in 1878, on a comparatively short contract, as Professor of Physiology and Comparative Anatomy in the Agricultural College at Sapporo, and to act as consulting physician to the former Colonization Bureau (*Kaitakushi*), has had his commission several times renewed; and, it is said, that a proposal to remain until 1889 would have received his assent, had not a pressing message reached him by telegraph from America. The *Japanese Daily Mail* speaks very highly of Dr. Cutter's services at Sapporo, under the Colonization Bureau, the Department of Agriculture and Commerce, and the Hokkaido Administration. In addition to his professional duties, he has done considerable literary work, and two of his books have been translated into Japanese.

— A correspondent of the *Medical Press and Circular* says that in the Highlands of Scotland, as in the Continental Highlands, a belief in miracles, and in incantations and superstitious practices of the grossest nature in curing certain forms of disease, still exists, of which the following incident, occurring the other day at a village on the west coast of Ross, is an illustration: A middle-aged fisherman was seized with a somewhat sharp attack of an eruptive disease, popularly known by the name of shingles, which, according to the local wiseacres, could be cured only by an application of blood drawn from a black cat with a knife or other instrument, with which the umbilical cord of at least seven male children had been divided, and applied with a feather from the wing of a black domestic hen, which had hatched not less than three broods of chickens. To this sanguinary ordeal, the patient, at the solicitations of his friends, agreed to

submit with becoming resignation and unquestioning faith in its efficacy. Having been undressed and laid on his back, with his head toward the south, operator A walked round him three times with the cat, in accordance with the course of the sun. He then held the cat over the patient's breast, while B, with the proper instrument, cropped its right ear, and, as the blood trickled on the sufferer's breast, besmeared it over the affected parts with the feather from the black hen, at the same time muttering incantations in the vernacular. Strange to say, the treatment failed to effect a cure; and, as the patient is still unwell, he is about to undergo a repetition of the performance.

## BOSTON.

— City Physician McCollom, who was deputed by the zealous Boston Board of Health to visit Holyoke, ostensibly to ascertain if the alleged infected foreign rags from which the small-pox was supposed to have sprung were imported through Boston, is said to have made his report, in which he states that there were both foreign and domestic rags in the assortment at the mill where the handlers contracted the disease; the foreign coming by way of New York, the domestic from various localities; but the inspector came to no conclusion as to which was responsible for the infection, the evidence seeming to him negative. This report is quite different from that which appeared in some of the daily papers as being the purport of Dr. McCollom's conclusions; and which appeared, we may say, in advance of any report being made by Dr. McCollom at all. The conclusion is the only one which a sensible and unprejudiced man could reach under the circumstances.

— The lower branch of the Legislature has rejected the bill for Registration of Dentists.

— Prof. Jacob A. Wortman, who is attached to the Army Medical Museum, at Washington, as its anatomist, has been here for some days. He has been deputed by the Surgeon-General's office to study the methods, and examine the recent work at the anatomical laboratory of the Harvard Medical School and the Museum of Anatomy, in common with those of such others as may be likely to offer instructive suggestions for the prosecution of the work at the Washington Museum. This is a well-deserved compliment to the skill and industry of the anatomical department at the Harvard Medical School.

## NEW YORK.

— The police recently arrested no less than sixty-eight Chinese in an opium-joint and gambling den, occupying a tenement on the Bowery.

— The thirtieth annual commencement of the New York College for Veterinary Surgeons and School of Comparative Medicine was held at the Carnegie Laboratory, March 16th.

— The twenty-sixth annual commencement of Bellevue Hospital Medical College took place quietly at the

Carnegie Laboratory, in the evening of March 14th; and after degrees had been conferred on 134 graduates by the President of the College, Dr. Isaac E. Taylor, the Faculty and Class adjourned to Delmonico's, where a dinner provided by the former was enjoyed.

—The Board of Health has amended the section of the Sanitary Code governing the removal of stable-manure, so that, in future, such material on any city premises must either be baled or removed as soon as a cartload has accumulated, it being also provided that the baled manure shall not be allowed to become a nuisance. This change has been made at the request of the Medical Society of the County of New York, on the recommendation of its Committee on Hygiene.

### Miscellany.

#### INTRA-SCROTAL HYDATID CYST.

DR. PHILIP E. MUSKETT, surgeon to the Sidney Hospital, read before the New South Wales branch of the British Medical Association a case of hydatid of the scrotum, which is thus summarized in the *Practitioner*, February, 1887. The patient, a man, aged twenty-five, a native of Lancashire, was brought to Brisbane at the age of three. Swelling of the scrotum began in 1878; it was tapped in 1884, and again within eight months, and iodine injected. In July, 1886, the tumor was painless and transmitted light, and the testicle could be felt at its posterior part. It was tapped with a small trocar; but inflammation ensuing, a larger trocar gave vent to a purulent fluid which continued to drain through the opening; and a membrane, presenting the usual unmistakable characters of a hydatid sac, being grayish in color, translucent and elastic, and in its collapsed condition being such as would about fill an egg-cup, forced its way out and was extracted. The sinus then ceased to discharge, and the scrotum resumed its normal condition.

#### ADMINISTRATION OF GASEOUS ENEMATA.

At a recent meeting of the Philadelphia County Medical Society, in the discussion of some remarks of Dr. J. Solis-Cohen on the "Administration of Gaseous Enemata," Dr. William Osler said that "recently, at the University Hospital, a patient very nearly expired after an injection of a mixture of carbon dioxide and sulphuretted hydrogen. He was not aware at the time that sulphuretted hydrogen, if given in sufficient quantities, is capable of producing poisonous effects, even when taken by the rectum. He mentions this accident, lest similar mistakes should arise. Evidently, the amount of sulphuretted hydrogen which is given must be small. At the Biological Society, at Paris, some experiments were related, which showed that even a few cubic centimeters are sufficient to poison a good-sized dog. In the experiences which are related in French journals, the odor of sulphuretted hydrogen is readily observed in the breath, but this has not been noticed in any of the Blockley patients. This is an exceedingly interesting, not to say comical, method of treating phthisis, but it is too early to say

what the results are likely to be. Certainly, however, in Dr. Bruen's hands, at the Philadelphia Hospital, they have been extremely good."

#### COCAINE-POISONING.

In the *St. Louis Medical and Surgical Journal*, Dr. McIntyre records the following case of cocaine-poisoning: The patient, a well-built man, aged forty, was found, as pale as death, lying on the doorstep of his shop. His pupils were much dilated, and the conjunctiva insensitve; respiration was slow and difficult; the pulse was 140. The patient was unable to articulate, but frequently made signs for water, which was scarcely placed in his mouth when it was rejected, as he could not swallow it. He had fallen into this state owing to a hypodermic injection of three centigrammes of cocaine, twenty minutes before. Dr. Nichols, his ordinary medical attendant, had already, on several occasions, given him hypodermic injections of from three to four centigrammes of this drug, repeating them every half-hour, until twenty centigrammes had been administered; and he was, therefore, much surprised to see one dose produce symptoms of poisoning. The patient was a very intemperate man, and the injection was given as a remedy for the after-effects of drunkenness. Dr. Nichols, who had had a large experience in the use of cocaine for depression following intoxication, said that its effect was to destroy for a time the desire for alcohol. In the present case, the treatment consisted of morphine and alcohol in repeated doses. The patient was in a serious state for some time, but gradually recovered. At the end of four hours he was able to be taken home in a carriage, and fourteen hours after the injection he was quite well.

#### ON THE USES OF BORIC ACID.

DR. J. T. SEARCY in the *Atlanta Medical and Surgical Journal* writes enthusiastically in praise of boric acid, which as an antiseptic, he says, is better than iodoform, besides being cheaper. The best shape in which to use it is as an impalpable powder. Open wounds, before they are closed, may be freely dusted over with this powder, and compound fractures may be so treated, with often the happiest results. No application so effectually destroys the offensiveness of foul sores. Cancerous and other ulcers are benefited by boric acid, in combination with iodoform or not. It makes an excellent injection for gonorrhoeal inflammations, in the strength of ten grains to the ounce of water for the urethra, and half an ounce to the pint of hot water for the vagina. Eczema, both in its moist and in its dry stages, is helped by it, as a rule. Dusted finely on itching surfaces, it proves usually a very grateful application. It is almost a specific for ringworm: moisten the surface first, and with the wet hand, or a piece of sponge, rub the powder into the skin firmly once or twice a day. All itching is soon allayed, and the part gradually gets well. Persons troubled with offensive secretions of the axilla or the feet, will find this a very efficient and safe application. A combination of iodoform one part, boric acid two parts, vaseline four parts, makes an excellent ointment for venereal sores.

## Correspondence.

## REPORT OF MASSACHUSETTS MEDICO-LEGAL SOCIETY. CORRECTION.

NEW BEDFORD, MASS., March 19, 1887.

MR. EDITOR,—Regarding the report of "An Anomalous Arrangement of the Veins of the Neck," in the report of the Massachusetts Medico-Legal Society, on page 262 of No. 11 of the current volume of the JOURNAL, I am informed by Dr. Pinkham that my statement was an erroneous one, as there was no internal jugular vein or other large vein except the vessel occupying the usual site of the external jugular. Will you kindly print this in correction?

Very truly yours,

W. H. TAYLOR, M.D.

## ARSENICAL WALL-PAPERS AGAIN.

BOSTON, March 19, 1887.

MR. EDITOR,—I have been much interested by the recent articles on arsenical wall-paper poisoning, and beg to be allowed to contribute another case which occurred in my own house. Several years ago I had occasion to have my house re-decorated, and having heard a great deal on the subject of arsenic in wall-papers, I was very particular to select none but guaranteed papers. These were furnished by one of our most reliable houses, Messrs. Gregory

& Brown, who showed me certificates of freedom from arsenic, signed by a Mr. Lee, a chemist, who was at that time employed by the firm to make analyses of their papers.

After the completion of the work, one of the bedrooms was occupied nearly two years by a gentleman who constantly complained and particularly in the morning, of not feeling well, but with no very distinct symptoms. The same room was next occupied on two separate occasions by a guest, who each time left the house with undefined illness, which was of sufficient seriousness to warrant consultation with a physician. Another guest was affected in the same way. Still another complained after a few days occupancy, of sore throat, coryza and irritation of the nose and eyes, and headache. A little more than two months ago the room was occupied by my daughter and her infant child. Both were made so ill, particularly the baby, that my daughter cut her visit short in order to get the child home to her husband, who is a physician. It was by him suggested that the secret of the trouble with that particular room might lie in the wall-paper, and I therefore sent a specimen of the paper to Dr. Charles Harrington, of the Harvard Medical School, who reported that it contained a dangerous amount of arsenic.

Messrs. Gregory & Brown on being informed of this fact hastened to do everything in their power to remedy the trouble, insisting on removing and replacing the paper at their own expense. This was done, and since that time there has been no trouble of any sort. In this case the blame rests not upon the dealers but upon the chemist, who, I am informed, is no longer in their employ.

Yours very truly, A. V. S. ANTHONY.

## REPORTED MORTALITY FOR THE WEEK ENDING MARCH 12, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Typhoid Fever.	Diph. & Croup.	Measles.
New York . . . . .	1,481,920	731	300	22.26	18.76	.70	11.06	4.20
Philadelphia . . . . .	963,801	456	146	10.56	15.18	3.74	2.64	1.76
Brooklyn . . . . .	745,108	287	120	10.50	21.79	.70	4.20	1.15
Chicago . . . . .	745,108	—	—	—	—	—	—	—
St. Louis . . . . .	420,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	—	—	—	—	—	—	—
Boston . . . . .	400,000	172	52	11.02	15.66	1.74	4.64	1.74
New Orleans . . . . .	242,750	—	—	—	—	—	—	—
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
District of Columbia . . . . .	210,000	88	29	6.84	3.42	1.14	1.14	—
Pittsburgh . . . . .	210,000	75	32	30.59	13.84	3.96	9.24	10.56
Montreal . . . . .	210,000	—	—	—	—	—	—	—
Milwaukee . . . . .	170,000	—	—	—	—	—	—	—
Providence . . . . .	121,000	51	17	3.92	31.36	—	1.96	1.96
Richmond . . . . .	100,000	—	—	—	—	—	—	—
New Haven . . . . .	80,000	—	—	—	—	—	—	—
Nashville . . . . .	65,000	—	—	—	—	—	—	—
Charleston . . . . .	60,145	25	10	20.00	28.00	—	10.00	—
Portland . . . . .	40,000	20	3	—	20.00	—	—	—
Worcester . . . . .	68,383	24	13	8.32	24.96	—	4.16	—
Lowell . . . . .	64,601	30	7	16.66	10.00	3.33	—	3.33
Cambridge . . . . .	59,690	13	2	—	30.76	—	—	—
Fall River . . . . .	56,863	13	4	23.07	—	—	7.69	—
Lynn . . . . .	45,861	15	5	13.33	20.00	6.66	6.66	—
Lawrence . . . . .	38,825	13	5	—	15.38	—	—	—
Springfield . . . . .	37,577	12	3	—	25.00	—	—	—
New Bedford . . . . .	35,363	24	10	4.46	20.80	—	4.16	—
Somerville . . . . .	29,992	7	1	14.28	28.56	—	—	—
Salem . . . . .	28,084	17	5	5.88	17.64	—	5.88	—
Holyoke . . . . .	27,894	10	—	30.00	20.00	—	20.00	—
Chelsea . . . . .	25,709	10	5	—	—	—	—	—
Taunton . . . . .	23,674	6	1	—	33.33	—	—	—
Haverhill . . . . .	21,795	3	3	—	—	—	—	—
Gloucester . . . . .	21,713	4	2	25.00	25.00	—	25.00	—
Brockton . . . . .	20,783	10	1	—	—	—	—	—
Newton . . . . .	19,759	6	1	—	16.66	—	—	—
Malden . . . . .	16,407	—	—	—	—	—	—	—
Pitchburg . . . . .	15,375	7	1	—	42.84	—	—	—
Waltham . . . . .	14,609	2	0	—	—	—	—	—
Newburyport . . . . .	13,716	4	1	—	—	—	—	—
Northampton . . . . .	12,896	—	—	—	—	—	—	—

Deaths reported 2,471; under five years of age 750; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 316, acute lung diseases 371, consumption 202, diphtheria and croup 131, measles 55, typhoid fever 30, scarlet fever 26, diarrheal diseases 21, cerebro-spinal meningitis 12, puerperal fever 12, erysipelas nine, whooping-cough seven, malarial fevers six. From scarlet fever, New York 12, Brooklyn eight, Philadelphia five, Boston one. From diarrheal diseases, New York 15, Pittsburgh, Charleston, Worcester, Lowell, Chelsea and Haverhill one each. From cerebro-spinal meningitis, New York five, Philadelphia three, Fall River two, District of Columbia and Pittsburgh one each. From puerperal fever, Philadelphia and Boston, three each, Richmond, District of Columbia and Pittsburgh two each. From erysipelas, New York six, Brooklyn, Boston and Somerville one each. From whooping-cough, Brooklyn three, New York two, Richmond and Pittsburgh one each. From malarial fever, New York four, Brooklyn and District of Columbia one each. From small pox, New York one.

In the 21 cities and greater towns of Massachusetts, with a population of 1,041,216 (population of the State 1,941,463) the total death-rate for the week was 20.27 against 18.55 and 20.68 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,345,099, for the week ending February 20th, the death-rate was 21.3. Deaths reported 3,767; infants under one year of age 836; acute diseases of the respiratory organs (London) 466; measles 140, whooping-cough 94, scarlet fever 41, diarrheal diseases 39, diphtheria 31, fever 21. The death-rates ranged from 13.5 in Nottingham to 33.0 in Huddersfield; Birmingham 18.9; Hull 20.1; Leicester 21.5; Liverpool 24.1; London 20.9; Manchester 20.1; Newcastle-on-Tyne 27.2; Portsmouth 21.9; Sheffield 21.4.

In Edinburgh 21.0; Glasgow 24.9; Dublin 30.7.

The meteorological record for the week ending March 12, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather.			Rainfall.
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	
Saturday, Mar. 12, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.														
Sunday, ... 6	30.248	29.0	31.0	26.0	100.0	100.0	100.0	100.0	S.E.	N.E.	N.	21	18	11	N.	B.	R.	—
Monday, ... 7	30.062	29.0	32.0	22.0	92.0	89.0	85.0	89.0	N.	S.E.	S.E.	6	4	2	O.	O.	O.	—
Tuesday, ... 8	30.223	30.0	36.0	40.0	20.0	85.0	37.0	47.0	W.	N.W.	N.W.	10	19	10	O.	C.	C.	—
Wednesday, ... 9	30.211	31.0	30.0	23.0	61.0	64.0	79.0	69.0	N.	E.	S.	6	14	5	C.	F.	O.	—
Thursday, ... 10	29.771	23.0	28.0	20.0	100.0	100.0	95.0	85.0	N.	N.W.	N.	6	14	21	N.	N.	N.	—
Friday, ... 11	29.746	27.0	31.0	23.0	76.0	65.0	52.0	61.0	N.W.	N.W.	N.W.	20	31	29	O.	O.	O.	—
Saturday, ... 12	29.807	31.0	42.0	25.0	66.0	51.0	64.0	61.0	N.W.	N.W.	N.W.	18	16	18	O.	F.	F.	48 1.80
Mean, the Week.	30.016	31.0	38.0	25.0				76.0										

1 O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., sleet.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 12, 1887, TO MARCH 18, 1887.

CARTER, Wm. F., captain and assistant surgeon. Leave of absence extended four months on surgeon's certificate of disability. S. O. 57, A. G. O., March 11, 1887.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE MEDICAL PARKING MARCH 18, 1887.

PARKER, J. B., surgeon. Ordered to the United States Steamship "Ossipee."

SIEGFRIED, C. A., surgeon. Ordered to Baltimore, Md., on special duty.

HOGG, JOSEPH, surgeon. Placed on retired list, March 17, 1887.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING MARCH 12, 1887.

BANKS, C. E., passed assistant surgeon. To proceed to Chicago, Ill., and assume temporary charge of the Service, March 10, 1887.

#### SOCIETY NOTICE.

NORFOLK DISTRICT MEDICAL SOCIETY. — A meeting for Scientific Improvement will be held at the hall of the Roxbury City Guard, 67 Warren Street, Roxbury, March 29, 1887, at 7.45 P.M. Communications: I. "Cases showing Unpleasant Symptoms due to Antipyrin," Edward T. Twitchell, M.D. The discussion will be opened by J. Howard Thurlow, M.D. II. "The Effect of Ether upon the Peripheral Nerves," Henry Bowditch, M.D. A Report of Four Cases of Penetrating Wounds of the Knee-Joint treated at the Boston City Hospital," Oliver H. Howe, M.D., Former House Surgeon.

S. ALLEN POTTER, M.D., Secretary.

#### DEATH.

Died, in East Boston, March 19, 1887, John Beveridge Fulton, M.D., M.M.S.S., aged fifty-two years.

#### RESIGNATION.

Dr. Francis Minot has resigned his position as Visiting Physician at the Massachusetts General Hospital.

#### BOOKS AND PAMPHLETS RECEIVED.

Physiological Laboratory. Harvard Medical School, Boston. Collected Papers II. 1880-86. For Private Circulation.

Congenital Hemophilia, with the History of a Remarkable Case. By Edmund C. Wendt, M.D., Curator and Pathologist of the St. Francis Hospital, and of the New York Infant Asylum. New York, 1887. (Reprint.)

Circulars of Information of the Bureau of Education. No. 2, 1886. Proceedings of the Department of Superintendence of the National Educational Association at its Meeting at Washington, February 23-26, 1886. Washington, 1887.

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## Lecture.

ON THE PHYSIOLOGY OF EXERCISE.<sup>1</sup>

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ONE of the principal obstacles to the success of any comprehensive effort to make physical training an integral factor in the education of American youth, is found in the very general misapprehension as to what physical education is, and what its effects are. If the teachings of modern physiology and psychology in regard to the functions of the muscular and nervous systems of the human body were apprehended, even by those classes which we are wont to call educated, it would be a comparatively easy matter to secure the votes and appropriations necessary for the adoption or trial of rational and approved systems of physical exercise.

The fundamental and essential characteristics of exercise are so generally misstated and its proper effects so frequently overlooked, that I have chosen the physiology of exercise as my theme. I cannot hope to present a complete and satisfactory theory of exercise, but I may be able to point out the situation of quarries whither we may repair with profit, for the foundation-stones on which such a theory should be based.

Exercise is so comprehensive and elastic a term, when taken in its general sense, that it may easily be made to cover a multitude of actions, and some sins. The word is so nearly synonymous with practice that it has come to be used oftenest by those who devote themselves to preaching on conduct, on education, or on health. One need not make lengthy or frequent excursions into the domains of theology, of pedagogics or of hygiene, to discover that the meanings of exercise are many and mixed. The casual reader will hardly be struck by the points of resemblance between the exercises made use of by the Greek athlete and the Roman gladiator in preparation for their contests, and the exercises ordained for the training of catechumens and of aspirants for canonization. To the ancient Puritan a week-day sermon was a delightful "exercise," while most of his less serious contemporaries held that shooting, hunting, and riding "which be martial exercises," were the only kinds of exercise proper for gentlemen. At first sight there appears to be no common element in such exercises as the foregoing, and those which our modern teachers of French, of pugilism, and the piano, are accustomed to set their pupils, unless it be the exercise of patience. Still, speaking broadly, it is possible to find in all the secondary meanings of the word, some trace of its primary signification; namely, a repeated action for the sake of training or practice.

It is interesting to note that our word exercise and *exercitus*, the Latin word for the body of best-trained men in the State, the army, are derived from the same verb *exerceo*. The Greek synonym for *exerceo* is *asno* and meant originally to work raw material. In classic times it meant to exercise, to train in the strict athletic or gymnastic sense; later, in the early

days of the Church, it signified to discipline the flesh, to mortify the body, and to it in this sense the English word *ascetic* owes its origin and present meaning. The original *ascetic* was simply an industrious and careful gymnast or athlete.

Our universal friend, the average man of to-day, is theoretically in favor of exercise. "Exercise," you frequently hear him say, "does a man good." The average woman has not attained to the same degree of certitude. If you ask the average man to define his notions of the good which exercise does, he will probably indulge in cloudy generalities concerning its influence in realizing the *mens sana in corpore sano* ideal. It is astonishing what an amount of service that line of pagan Latin has done in confusing thought and preventing inquiry as to the nature of exercise. Press the average man a little to abandon the general and become specific, and you may learn that muscular exercise is particularly good for opening the pores; for cleansing the blood; for quickening the spirits; for getting up one's muscle; and that it is above all valuable for enabling the rising generation to work off its superfluous animal spirits. Every such alleged advantage of exercise is vague or meaningless in the light of our present knowledge. The physiological terminology and ideas of the average man are seldom so recent as the revival of learning, and in many instances antedate the Christian era. The facts that we are in search of have not been quarried on the windy heights of hortatory literature or in the fat meadows of the common mind. If they have been brought to light anywhere it is in fields where physiologists and physicians have been digging so profitably during the last two hundred years.

The best comprehensive definition of exercise that has come under my notice is that given by Du Bois Reymond, Professor of Physiology in the University of Berlin. "By exercise, we commonly understand," he says, "the frequent repetition of a more or less complicated action of the body with the coöperation of the mind, or of an action of the mind alone, for the purpose of being able to perform it better." Practically all human actions are comprised under the two heads of this definition of exercise. Bodily actions demand our first consideration, since without them mental power, artistic feeling, and spiritual insight cannot be made to answer any earthly purpose.

It is far easier to understate than to exaggerate the part which muscular actions play in human life. Imagine the condition of a man perfectly formed, generously endowed, and in his prime, whose single lack should be that sensible, warm motion that has its seat in the muscular tissue. The position of a fly in amber would be lively and preferable to the isolation of such a man. Of course he could not "do business"; but he could think and fear and hope. He must face the future, lying like a log in whatever position he may happen to fall. His face will be absolutely destitute of expression, and his eyes fixed under closed lids. He can neither smile nor weep. His hunger cannot be appeased, nor his thirst slaked. His heart may "burn within him," but it shall not pump blood; so that he will be pulseless as well as breathless and bereft of speech. Unable to stir the tip of a finger or to raise a hair; he will be powerless to express his thought or aspiration, or to impress his conceptions or wishes upon any creature. In short, such a man would be an incorruptible cadaver. Spirit we might not call

<sup>1</sup>This paper, originally given as an address before the American Association for the Advancement of Physical Education, at Brooklyn, New York, November 26th, 1886, has been amplified and re-written since, and was delivered, in substantially its present form, as a Hopkins Hall Lecture, in Baltimore, February 18, 1887.

him, in face of the belief that ghosts are privileged to take nightly walks.

Without muscular tissue, then, we cannot live or move. Its importance to the body is also to be inferred from its mass and weight. Nearly, if not quite, one-half of the body, by weight, is made up of muscular tissue. In it is contained one-quarter of the blood; and by it, fully one-fourth of the energy stored up in the body is turned into work. This tissue consists of fibres which are, for the most part, collected into the distinct organs, which we call muscles. The muscles of the lower animals are familiarly known to us as lean meat; our own have been, at various times, stigmatized as fleshy members. All muscle-fibres are endowed with contractility, by virtue of which they shorten when acted upon by certain agents, termed stimuli.

A large class of human muscles are stimulated by the action of the will, and are, therefore, called voluntary, though some of them habitually, and all at times, respond to other stimuli as well. There are more than five hundred muscles in the human body which are under control of the will. They are mostly arranged in pairs, as, for instance, the muscles of the two hands are alike in number, and identical in form and function. Muscles which do not respond to volitional stimuli are termed involuntary. They are found in the walls of bloodvessels, in the intestinal canal, and other organs.

When examined microscopically, voluntary muscle-fibres show certain faint cross-lines or striae, and are, therefore, often called striated or striped muscle. Similarly, involuntary muscle is called smooth or plain muscle-tissue, because its fibres are destitute of striae. The heart, though an involuntary muscle, is made up of striped fibres, intermediate in character between the sorts named. For our present purpose, it is best to confine our attention wholly to muscles of the voluntary sort.

A freshly-dissected muscle of one of the higher animals presents a smooth surface, rounded outlines, and a glistening appearance. It is usually red in color, though it may be pale or colorless. It is usually distinguishable into three well-marked parts, namely, a soft, red, contractile, central portion, termed the belly, which tapers towards each end; and its two terminal tendons, which are dense, white, inelastic cords, whose function is to connect the muscle with its points of attachment. The surface of the fleshy portion of the muscle is covered by a smooth, glistening sheath of connective tissue. Inward prolongations of this sheath pass into the substance of the muscle, and divide it into bundles of fibres, technically called fasciculi or packets. Each fasciculus consists of a number of fibres running parallel to each other. The fibres are separated from one another by connective tissue, just as the fasciculi are. The muscle-fibre is the ultimate and essential element of muscular tissue. Each fibre consists of a soft, contractile, semi-fluid substance, contained in a tubular sheath — the sarcolemma, the word means flesh-skin — which is transparent, tough, and elastic. Fibres vary in diameter from  $\frac{1}{100}$  to  $\frac{1}{10}$  of an inch, and are seldom longer than  $1\frac{1}{2}$  inches. These fibres are arranged in linear series, and do not intercalate with each other. The amount of shortening in a contracting muscle is equal to the summated contractions of its individual fibres.

It may aid you to picture to yourselves the struc-

ral features of muscles, to liken the ultimate muscle-fibre or cell to a single sausage. The sarcolemma would then correspond to the sausage-skin, and the contractile contents of the sarcolemma to the sausage-stuff. The muscular fasciculus would represent many parallel rows of sausages, placed end to end, and bound together and invested by a tough, elastic membrane, so as to form a kind of rope. The muscle, as a whole, would stand for a collection of such ropes, lying parallel to one another, in the form of a large bundle, widest in its middle region, and tapering towards each end. If to each end of the packet of sausages you attach a dense cord, made up of inelastic fibres, you would complete a structure which should be roughly comparable with some of the typical single muscles, so far as the mere arrangement of their muscular tissue is concerned.

If we lay bare a muscle in a living animal, we may cause it to contract before our eyes, either by bringing a heated body close to it; by giving it a slight tap; by applying certain chemical substances to it, such as ammonia, lime-water, or common salt; or by giving it an electric shock. The details of muscle-physiology have been worked out chiefly through the study of cold-blooded animals, since their tissues are longer-lived, and suffer less injury from the manipulation required in making experiments than do those of warm-blooded animals, like the dog and cat. But a sufficient number of observations have been made upon the higher animals, including man, to warrant the belief that their muscles act in essentially the same way as the muscles of frogs and turtles.

When a muscle outside the body is acted upon suddenly by an appropriate stimulus, it quickly shortens; and then, if it has been loaded with a weight, rapidly returns to its former length. A weighted muscle outside the body, or one in the body, which acts against resistance, does work every time it contracts. Its work is chiefly of the sort which physicists have named mechanical work, and is equal to the product obtained by multiplying the weight lifted by the distance through which it is lifted against the force of gravity. Its measure is expressed in foot-pounds. A muscle with no weight attached does no "work" when it contracts; nor does it do any work if it is loaded with a weight too heavy for it to lift. Of two muscles equal in cross-section, the longer can do more work; whereas, if two muscles are of equal length, that which contains the greater number of parallel fibres will do more work than the other. It is estimated that a square-centimetre of human muscle can just lift a little more than twenty pounds. Muscles are somewhat elastic; and, in the body, are slightly over stretched.

But a single muscle is a more complicated structure than you would suppose from my description of it; and, under normal conditions, is excited to contract by nervous stimuli, and not by any of those which have been mentioned. It was necessary to mention them, as showing what is termed the independent irritability of muscle. Besides its contractile substance, its tendon, and the sheaths which invest its fasciculi and fibres, every muscle has bloodvessels and nerves, whose functions must be considered before we can arrive at a clear understanding of muscular exercise. Fresh blood is supplied to the muscle-substance by the heart, through its arteries, and the fine network of arterial capillaries formed by the minute subdivision of the

arteries. As elsewhere in the body, the arterial capillaries open into, and are continuous with, the venous capillaries, which, becoming united into larger and larger vessels, form the veins of the muscle, or the channels by which the blood is returned to the heart from the muscle. Muscle-arteries, and veins usually lie alongside of each other in the connective tissue which surrounds the fasciculi, while their capillaries form a fine meshwork of vessels, lying between and upon the muscle-fibres, but without penetrating the sarcolemma of any fibre. The walls of the capillaries are permeable to lymph, as the fluid portion of the blood is called. The fibres are, therefore, bathed in lymph, and derive their food-supply from it by absorption through their tubular sheaths.

Before considering the part which nervous stimuli play in muscular contraction, we must glance at the structure and functions of the elements which make up the nervous system. Nerve tissue like muscular tissue is irritable, in that it is responsive to stimuli, but it is irritable in a vastly higher degree; unlike muscular tissue it is in nowise contractile. The elements of the nervous system take the form either of nerve fibres, or of nerve cells. An aggregation of nerve cells constitutes a nerve ganglion. The fibres serve for the conduction of stimuli and connect central nervous organs, such as parts of the brain and spinal cord, with organs at the periphery of the body, such as the eye and the hand. Nerve cells not only transmit impulses, but also act as physiological centres for regulating motion, sensation, nutrition, secretion, etc. Nerve fibres are known as afferent when they conduct impulses toward nerve centres, and as efferent when they transmit impulses outwards from nerve centres. Since stimuli which are transmitted centrifugally from organs in the periphery give rise to sensations, afferent nerves are very commonly called sensory; and since impulses which are transmitted centrifugally to the motor organs from the centres give rise to motion, efferent nerves are called motor nerves. A single instance will serve to illustrate the use of sensory and motor fibres. If a fly alight on my forehead the sensory fibres of the skin are stimulated. Afferent impulses then travel up the fibres to centres within the brain. As a result of the slight shock imparted to the nerve cells, that part of me which is in communication with that group of cells is rendered conscious of a new sensation, and I feel disturbed. If I am sufficiently disturbed to feel irritated, my will causes the centre to send efferent impulses along motor nerves, which pass to the muscles of my arm and hand, and my hand is moved to brush off the fly, which, being amply furnished with sensory and motor organs of his own, usually retires in glee or terror, as the case may be, before my hand can reach him.

From their appearance nerve fibres are divided into white fibres and gray fibres; and from their structure the white fibres are termed medullated, or fibres with a pith; and gray fibres are called non-medullated, or fibres without a pith. The medullated fibres are the more highly developed of the two. The essential, conducting part is in each kind of fibre known as the axis-cylinder. It consists of a very fine cylindrical thread or strand of fibrils transparent semi-fluid, and highly irritable protoplasm, when alive. In medullated fibres the axis-cylinder occupies the central fourth of the fibre. Outside it and surrounding it, just as the wax of a can-

dle surrounds its wick, is the medullary sheath of white substance, and outside of the medullary sheath is another sheath known as the primitive sheath, or neurilemma, which serves as a protection to the parts within. The neurilemma is comparable to the sarcolemma of the muscle fibre. Medullated fibres, which vary in breadth from  $\frac{1}{1000}$  to  $\frac{3}{1000}$  of an inch, are aggregated into bundles termed *funiculi* or ropes, corresponding to muscular fasciculi. The funiculi are enclosed in connective tissue sheaths. An aggregation of funiculi forms a nerve trunk, the "nerve" of ordinary speech. The main difference between non-medullated and medullated fibres is this: the former has no medullary sheath interposed between the neurilemma and the axis-cylinder. The medullary sheath of the latter gives it its white appearance and its name of white fibre.

Nerve cells present too many and too varied forms for description here. Suffice it to say that the simplest forms are roundish in shape; others, oval in shape with prolongations at each end, are termed bipolar; others are irregular in shape with many branches or processes. All of them contain living and highly irritable protoplasm of a granular gray appearance, usually enclosed by a sheath or cell-wall. It only concerns us to remember that some of the processes serve to connect cells with other cells, and that the axis-cylinders of nerve fibres are direct and unbranched prolongations of the irritable cell substance.

To return to the motor nerves of the muscles. The nerve fibres found in the muscles are of the white or medullated sort. The motor nerve belonging to a muscle usually enters the muscle at its middle point. It then divides and subdivides into so many branches that every muscular fibre receives a nerve fibre. Where the nerve fibre pierces the sarcolemma the axis-cylinder spreads out, forming an eminence of protoplasm within the sarcolemma. This eminence is known as the "motorial-end plate." The branches of the axis-cylinder traverse this end-plate, and subdivide into fibrils which penetrate the contractile substance of the fibre. Only the axis-cylinder of the nerve passes within the sarcolemma; since the outer sheath of the nerve fibre coalesces with the sarcolemma itself, and the medullary sheath ends at the sarcolemma.

We have, then, the contractile substance of the muscle fibre connected with the irritable stimulus-generating and transmitting substance of the central nerve cell, the connecting link being the axial fibre of the motor nerve, which is simply a portion of the nerve cell's contents long drawn out, in the form of a strand, until it reaches the muscle fibre, where it spreads out to form the end-plate, and then subdivides into fibrils which penetrate the muscle substance. What is true of a single muscle fibre is true of all the fibres in a given muscle; and what is true of one voluntary muscle is true of the entire five hundred. Voluntary muscles have sensory as well as motor fibres. They are the channels for the impulses which give rise to muscular sensibility, and are connected with centrally situated nerve cells which minister to our muscle sense. The sense, that is, which keeps us informed concerning the condition of the muscles, and the extent to which they are contracted.

A single muscle then is to be considered as an aggregation of a vast number of contractile fibres, arranged in myriads of linear series which in turn are

gathered into bundles, all of which, along with their accompanying nerve fibres and nutrient bloodvessels are supported and bound together by means of elastic connective tissue. The muscle, so made up, has its own special sheath, and is bound by its inelastic tendons to the bones which it is set apart to set in motion. It was stated that muscular contractions could be brought about through the direct application of chemical, thermal, mechanical, or electrical stimuli to the muscle itself. If the nerve of a muscle be excited by pinching it, by beating it, by applying certain chemicals to it, or by electrifying it, the muscle is indirectly stimulated to contract by means of the motor impulses discharged into it through its motorial-end plate. The motor nerve may be stimulated at any part of its course. Again, the muscle may be set in action through stimulation of the centres whence its nerve fibres emerge. The same stimuli have no effect upon the muscle when applied to the centre, if the path between the centre and the muscle have been blocked by severing or compressing the nerve. Such severance or compression may take place in the body as the result of certain diseased conditions of the nerve, or the parts adjacent. Motor paralysis is then the result.

The effects of exercise upon a muscle and the parts connected with it next demand our attention. It must suffice merely to note the most important of them. Immediately a muscle begins working, under whatever stimulus, the blood-stream passing through it becomes changed, both in respect of quantity and quality. The arterial twigs which ramify within it dilate; more blood is poured into the capillaries surrounding its fibres; and more blood flows through the veins from the muscle.

The blood which enters the muscle is bright red in color, rich in oxygen, and poor in carbonic acid. That which leaves it is dark blue in color and of a higher temperature; richer in carbonic acid, and poorer in oxygen; and contains various products, due to the chemical changes which take place in the food-material supplied to the muscle-substance, and in the muscle-substance itself. If the supply of arterial blood to a muscle is cut off or diminished, its irritability is lowered, that is, a stronger stimulus is necessary to make it contract. The same result follows, also, if it is fed with blood deprived of oxygen, or otherwise poisoned; or if the muscle-vein is tied, and the waste-products, normally drained off through the veins, are retained within the muscle. The irritability of a muscle is also lowered by prolonged stimulation, even when its in-going and out-going blood streams are unobstructed. If these disturbed conditions do not persist until the muscle-fibres pass into the condition known as death-stiffening; the irritability of the muscle may be restored, either by sending fresh blood through it, by sending a stream of some indifferent fluid through it, or by ceasing to stimulate it.

In the first case, restoration is brought about through the renewal of its supply of food-material and oxygen; in the second, by clearing out the noxious waste-products; and in the third, by allowing it to rest awhile. These, then, are the main conditions demanded for the health of a working muscle: A full supply of proper food and oxygen; unimpeded and sufficient drainage; and rest at due intervals. Given these three conditions in the body and exercise of a muscle causes it to increase in size and weight, through the increased

size and number of its fibres. Furthermore, a working muscle differs from a resting muscle in that it is appreciably hotter; by the presence of a low murmur, called the muscle-sound, which is caused by the more rapid vibration of the particles of the slightly over-stretched fibres; and on account of certain electrical peculiarities which it presents.

A muscle habituated to so exercise can do more work, and do it better, than an unexercised muscle, and for two reasons. Exercise makes the muscle larger, harder, and stronger, improving it simply as a tool in all its structure; and secondly, the muscle responds more quickly and completely to the stimuli which stir it up to work. In other words, the muscle becomes more obedient to its stimulators, the nerve-centres, through its better acquaintance with them. A muscle, then, is a neuro-muscular machine for developing power, for transforming the potential energy stored up in its substance, and the blood brought to it, into one or another form of the energy of motion.

If we consider a single muscle as a mechanism for developing energy of motion, it may be compared to a peculiarly-arranged collection of cartridges loaded with powder, and connected by wires with a series of electrical batteries. Each muscle-fibre would, in that case, stand for a single cartridge, the shell of the cartridge being represented by the sarcolemma; the charge of powder by the chemical components of the contractile substance; the wire from the battery by the motor nerve-fibre, and the cells of the battery by the cells of the nerve-centre; and the electric current by the nervous stimulus, which, passing along the axis-cylinder through the nerve-plate into the contractile substance, gives rise to the phenomena which attend a muscular contraction.

When a cartridge is exploded, chemical actions take place, which result in the sudden formation of gas, accompanied by the development of light, heat, and sound, and the production of a residue of smoke and ashes. If the cartridge-shell be tight and tough, the motion of the molecules of the suddenly-formed gas will be communicated to its particles, and the shell be shaken or moved from its position. By varying the construction and arrangement of the cartridges, we may cause the liberated energy of the explosive to set projectiles in motion, to rend rocks, or to move parts of mountains. The results of chemical explosions in the muscle-cartridges are less violent than those above noted, but they are sufficiently similar and well marked to be called parallel to them. The potential energy of the muscle-fibres is transformed into the energy of motion, through the decomposition of the chemically-unstable contents of the sarcolemma. Heat, sound, electrical changes, and mechanical motion are involved. The mechanical arrangement of the parts of the muscle are such that the total motion of the mass of its fibres is communicated, by the tendons of the muscle, to the parts of the body with which it is connected. So long as the muscle-fibres are properly nourished, and not too severely stimulated, the muscle-cartridges may be said to reload and maintain themselves in a state of readiness to go off on the receipt of stimuli from the central battery.

Muscles are more perfect power-machines than are steam-engines and rifled cannon, not only because they develop more work out of the energy stored up in the substances on which their activity depends, but also because they are distinguished from all machines of

human manufacture by the fact that they are self-improving machines, that is to say, they become tougher and stronger as structures through exercise, and, at the same time, more capable and adaptable functionally. Growth or increase in the size and number of its structural elements and development, or increased facility in its functional activity, are the main effects of exercise in the case of a single muscle. The same is true of the muscular system as a whole. Exercise enlarges and strengthens it on the one hand, and renders it more responsive and discriminative, as regards stimuli, on the other. The body, as a whole, is a machine in which the potential energy of organized material is transformed into the work which we see manifested in motion, animal heat, and the chemical actions involved in nutritive, secretory, and excretory processes. It is estimated that the tissue-changes of which a human adult body, weighing one hundred and forty pounds, is normally the seat, involve the transformation of more than a ton of material in the course of a year. Muscular activity is one of the chief agents in promoting wholesome tissue-changes in all the bodily organs, and in determining the normal growth and development of the organism as a whole.

It is beside my purpose to dwell at length upon the effects which exercise of the muscular system exerts upon the other systems of bodily organs. At the same time, the general effects of exercise are too important to be passed over without notice. The following account of them, given by Dr. G. Wilson, a well-known English writer on hygiene, may here suffice:

"Not only are the muscles themselves benefited by exercise," he says, "because they are brought into action, but, by their action, they increase the rapidity of the onward flow of the blood to the heart; the heart itself beats more vigorously; a larger quantity of blood is sent through the lungs; more oxygen is absorbed; a greater quantity of heat is engendered; and the skin and the other organs of secretion are brought into action, to get rid of the superfluous heat and the products of combustion. Thus the heart, lungs, skin, and other organs of the body are brought into more active play by muscular activity; the brain and nervous system are invigorated; the digestion is improved; and the whole machinery of the body is kept in efficient working order. On the other hand, through want of sufficient bodily exercise, the constituents of the food which pass into the blood are not sufficiently oxidized; effete products accumulate; the muscles become flabby or fat; the digestion is disordered; the nervous system becomes enfeebled; the function of secretion is impaired; and ill health or disease ensues. Indeed, it may be laid down as a rule that, other things being equal, those who take a sufficient amount of exercise in the open air, or are employed in active outdoor labor, will enjoy the best health and live the longest; and this is borne out by the statistics of the Registrar-General, which clearly prove that gamekeepers, farmers, and agricultural laborers are among the healthiest classes of the community."

Dr. Wilson holds that, as a rule, the amount of exercise required by a man of average height and weight is equivalent to a daily walk of eight or nine miles along a level road. "This rule, of course," he adds, "only applies to a man in the prime of life, for growing lads or women, who by the way, are rated as physically equal to lads of sixteen, the amount of ex-

ercise required would be somewhat less." This rule is for the average adult Englishman, whose height may be set at 5 feet, 6.6 inches, with a corresponding weight of 137 pounds. The height of the average American man is 5 feet 7.69 inches, and his weight is 141.93 pounds. I incline to believe that a growing boy needs more exercise than a mature man, since the boy needs exercise to promote growth quite as much if not more than to keep his bodily machinery in repair and smooth working order.

If we bear in mind that next, perhaps, to an adequate supply of proper food, nothing so promotes the normal growth and development of the body, as well regulated muscular activity; it is interesting to compare the children of different classes of the population as regards their height and weight. Although Dr. Bowditch, Professor of Physiology in the Harvard Medical School, and others in America have made valuable observations in this field, still, as more interest has been shown in this kind of investigation in England, where classes as such are more easily studied than with us, and the value of exercise, especially that derived from athletic sports, has been longer and more generally recognized, I shall bring forward, here, only English results for the most part.

The very complete and valuable tables published by Dr. Charles Roberts, of London, touching the mean height and weight and annual rate of increase in the case of some 7,800 boys and men, between ten and thirty years of age, belonging to the artisan class on the one hand, and 7,700 males between ten and thirty, belonging to the most favored class on the other, show that the mean height of the artisan class is for the whole period about three inches less than the mean height of those belonging to the most favored class. In the latter class public school boys, military and naval cadets, university and medical students were included. Although the inferior stature of artisans may be to some extent an inherited characteristic, it is held to be chiefly due to "the continuous operation of various conditions of life which retard and arrest growth, and which are most influential when growth is most rapid." Among the conditions so operating, "scanty feeding and wearing toil" as contrasted with "abundant nourishment and moderate exercise" occupy a prominent place. These tables also show a progressive gain as regards weight, on the part of the favored over the industrial class, both absolutely and in relation to height throughout the entire period under review. At the age of ten years the boys of the most favored class exceed the artisan's sons by one pound in weight; at twelve their excess in weight has increased to four pounds, and at thirteen they are ten pounds ahead. At the age of twenty, well-to-do English youths have a mean weight of eighteen pounds greater than that of handicraftsmen of the same age living in large towns. As regards chest-girth, and well directed exercise tells directly upon chest capacity, the most favored class is clearly superior to the industrial, which superiority is progressively increased until nearly adult life. In another of Dr. Roberts's tables it is shown that the sons of professional men living in the country exceed town boys of the same class by about an inch as regards height, at all ages between ten and twenty, and as regards weight by an amount varying from one to seven pounds. It also appears that the sons of soldiers, policemen, messengers and the like, are from one to four inches less in stature

and from four to thirteen pounds less in weight than boys of the same age whose fathers are devoted to intellectual pursuits; that the sons of artisans and factory operatives are the shortest and lightest of all youthful Britons, with the exception of idiots and imbeciles, of the same age, who have a mean height of an inch less even than youths of the artisan class. American boys seem to be a little taller and a little heavier than their English cousins of the same age and class.

Dr. Boulton, another English student of anthropometry, made observations extending over ten years on a certain group of children, all of whom were healthy, and the offspring of well-to-do parents. Dr. Boulton finds that "average English children brought up under favorable circumstances grow from two to three inches a year. A growth of less than two inches or over three should excite apprehension. The former would indicate arrested development. The rate of growth should be regular, and being so prognosticates future good stature." As to weight for height, whether a child grows two, two and a half, or three inches in a year, weight for height should be in each case identically the same, and all healthy children should grow broad in proportion to their height. "Between three and four feet the increase in height should," he says, "be two pounds per inch and, between four and five feet, two and a half pounds per inch. Well nourished children of healthy parents, in favorable surroundings, generally attain these averages. But what of children that fall below the standard? I find there is a seven-pound margin of safety, and that children falling more than seven pounds below this standard are devoid of reserve of stamina on which to draw, and consequently succumb quickly to many constitutional diseases. This then may be called the preventive medicine margin beyond which lies the dangerous land of cachexia."

Cachexia is a medical term signifying a depraved or lowered state of nutrition or of nutrient activity, in which the power of the tissues to repair injury or to resist inherited tendencies to disease is dangerously diminished. Amongst the best-marked cachexia are the cancerous, the malarious, and the phthisical. There is a condition of mind and body not infrequently seen nowadays in children and youth, especially among females, which is characterized by an irritable, easily overwrought, and unsteady nervous system, arrested muscular development, disordered digestion, and enfeebled powers of assimilation, which might well be called *cachexia scholastica*, since it is largely and sometimes directly brought about by ignorant and foolish parents and teachers who force and cram and overwork the undeveloped brains of children, and at the same time by neglecting or frowning upon their play and exercise, do their best to retard the growth and development which they ought to promote and might regulate.

The late Alexander MacLaren's experience with the first squad of twelve non-commissioned officers sent to him to be qualified as instructors in gymnastics in the British army, may serve to show how systematized and well-directed exercise may be made to influence bodily development in a comparatively short time. The twelve men alluded to ranged between nineteen and twenty-nine years of age, and had seen from two to twelve years' service. At the end of eight months' gymnastic training the increase in the measurements of the men was as follows:

	Weight.	Chest girth.	Fore-arm girth.	Upper-arm girth.
The smallest gain.	5 lbs.	1 inch.	1 inches.	1 inch.
The largest gain.	16 "	5 "	1 1/2 "	1 1/2 "
The average gain.	10 "	2 1/2 "	1 1/4 "	1 1/4 "

"The muscular additions," says MacLaren, "to the arms and shoulders and the expansion of the chest were so great as to have absolutely a ludicrous and embarrassing result, for before the fourth month several of the men could not get into their uniforms, jackets and tunics, without assistance, and when they had got them on they could not get them to meet down the middle by a hand's breadth. In a month more they could not get into them at all, and new clothing had to be procured, pending the arrival of which the men had to go to and from the gymnasium in their great coats."

(To be continued.)

## Original Articles.

### FIVE CASES OF LARGE VISIBLE PULSATING ARTERY ON THE POSTERIOR WALL OF THE PHARYNX, WITH REMARKS.<sup>1</sup>

BY J. W. FARLOW, M.D., BOSTON.

CASE I. E. N., a girl, thirteen years old, came to me at the Boston Dispensary, complaining of nasal catarrh and enlarged cervical glands; she had also an atrophic pharyngitis. My attention was immediately drawn to two large, pulsating vessels on the back of the pharynx, about quarter of an inch inside the posterior pillar of the fauces, and lying directly beneath the mucous membrane. By slightly depressing the

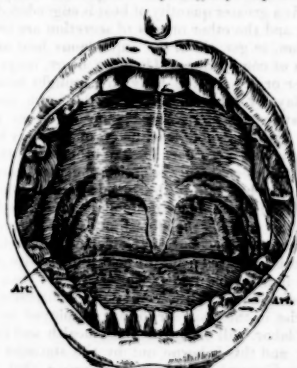


FIG. 1.

tongue the lowest point of the pulsation was easily seen, the upper limit was a little higher than the base of the uvula. The vessels were nearly vertical, and the left one had a more marked pulsation than the right. To the finger the impression was given of an artery fully as large as the radial. Fig. 1 will give

<sup>1</sup> Read at the meeting of the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, February 9, 1887.

a very good idea of the vessels. The patient knew nothing of this condition of her pharynx. Thinking that the large cervical glands might, by pressure, be the cause of this pulsation, I watched carefully to see if the vessels diminished in size as the glands grew smaller. But such was not the case. The glands entirely disappeared and the nose much improved, but the pulsation continued as before. I saw her the other day, eighteen months after her first visit, and found no change in the vessels.

CASE II. Mary C., eighteen years old, came to me complaining of nasal catarrh and some atrophic pharyngitis. There was a large, pulsating vessel on the posterior wall of the pharynx on the left side, as in Case I, but none was seen on the right. There were no large cervical glands.

CASE III. Annie M., twenty-three years of age, came to me for post-nasal catarrh. On the back of her pharynx were two large, pulsating arteries, almost an exact counterpart of Case I.

CASE IV. This was a woman about thirty years old, and was seen at the Massachusetts General Hospital, by Drs. F. I. Knight and F. H. Hooper. No notes of the case are at hand, but Dr. Hooper thinks the large vessel was on the back of the pharynx, about half-way between the uvula and the posterior pillar of the fauces on the right side.

CASE V. A little girl, four years old, came to me for nasal catarrh. On the posterior wall of her pharynx on the right side was a large pulsating vessel as in the other cases. The glands of the neck were slightly enlarged. A sister, five and a half years old, has beginning atrophic pharyngitis and rhinitis but no artery visible.

All the other cases seen by me were women, and in all the pharynx was atrophic, in two markedly so, the mucous membrane being thin, dry and shining.

This condition must be very rare, for I find no mention of it in text-books or in the literature of the subject. In my service of five years in the throat-room of the Boston Dispensary, I had never met with a case, and yet my three cases were seen within a week or two of each other, as is often the case with rarities.

In regard to what vessels these are, let us look at the normal blood-supply of the pharynx. The pharynx receives its blood principally from the ascending pharyngeal, a branch of the external carotid and the ascending palatine, a branch of the facial. (See Fig. 2).

Cruveilhier<sup>2</sup> says: "The ascending pharyngeal is the smallest branch of the external carotid. Its calibre is in inverse proportion to that of the palatine branch of the facial. I have seen it as large as the occipital. Its pharyngeal branch sub-divides at the base of the skull into several branches which penetrate the very dense fibrous tissue at the insertion of the pharynx to the occiput. These then turn downward, and terminate in the walls of the eustachian tube and the muscles of the pharynx. In a case of absence of the palatine branch of the facial I have seen the pharyngeal branch very large, supply the tonsil and ramify and lose itself on the veil of the palate."

Sappey<sup>3</sup> says: "The ascending pharyngeal is distinguished from the other branches of the external carotid by its small size and vertical direction."

Gray<sup>4</sup> says: "The largest of the pharyngeal branches of the ascending pharyngeal passes inward, running upon the superior constrictor and sends ramifications to the soft palate, eustachian tube and tonsil, which take the place of the ascending branch of the palatine when that vessel is of small size." With regard to the ascending palatine, Gray says: "It passes up between the stylo-glossus and stylo-pharyngeus to the outer side of the pharynx. After supplying these muscles, the tonsils and eustachian tube, it divides near the levator palati into two branches; one follows the course of the tensor palati and supplies the soft palate and palatine glands. The other passes to the tonsil, which it supplies, anastomosing with the tonsillar artery. The tonsillar branch passes up along side of the pharynx and perforating the superior constrictor, ramifies in the substance of the tonsil and the root of the tongue."

According to the above descriptions it seems as if, in my cases, the vessels were the ascending pharyngeal arteries, from their situation on the superior con-



FIG. 2.

strictor and their vertical direction, and inasmuch as mention is made of the increased size<sup>5</sup> of the vessel when the ascending palatine is small, it is possible that the latter vessels in my cases were unusually small. The atrophy of the mucous membrane allowed the pulsating vessel to be seen more readily.

The surgical importance of these cases is sufficiently evident. In case it were necessary to make an incision in the back of the pharynx, as in retro-pharyngeal abscess, we see how great the risk of an alarming hemorrhage might be. In all cases, where possible, it is advisable to examine with the finger, before operating, to see whether an artery of abnormal size or situation is present.

Dr. Porter<sup>6</sup> relates a case of recurrent hemorrhage from behind the left tonsil, which he thought came from the tonsillar artery or from a branch of the ascending pharyngeal; also a case of hemorrhage from an ulcer on the posterior surface of the soft palate, probably from the same vessels.

<sup>2</sup> Anat., Vol. 3, page 86.

<sup>3</sup> Anat. Descrip., Vol. 2, page 375.

<sup>4</sup> Anat., p. 454.

<sup>5</sup> Anat., page 451.

<sup>6</sup> Tr. Am. Med. Association, 1882, page 511.

Dr. E. Carroll Morgan, of Washington, D. C., who has recently written a paper on "Hæmorrhage following Uvulotomy," writes me as follows: "Obstinate bleeding following uvulotomy is, in my opinion, often due to the condition your cases so well illustrate. Literary research has surprised me, I confess, and I have now collected seventeen cases of dangerous hæmorrhage after this simple operation. Twelve of these have never been published, and were obtained by personal letters. Strange as it appears, the possibility of an anomalous artery being a factor in the dangerous hæmorrhages which here followed uvulotomy has never been mentioned in connection with reported instances."

These arteries must also be taken into consideration in cases of surgical treatment of the tonsils. Many cases of hæmorrhage following tonsillotomy are reported. In most of them no mention is made of the finding of an artery of unusual size, but it seems to me that a careful examination would have revealed this condition in some of the hitherto unexplained cases of hæmorrhage.

Downie,<sup>1</sup> speaking of tonsillotomy, says: "Of the vessels in the immediate neighborhood, the ascending pharyngeal is the only one which might be damaged, and this only in unwarrantably free incision into the tonsils, never in excision. Billroth<sup>2</sup> removed the left tonsil of an hysterical lady. The organ was pulled toward the middle line and a fold of the pharyngeal mucous membrane was probably drawn out and cut with the tonsil. A fearful hæmorrhage occurred, which Billroth thought came from some large branch of the ascending pharyngeal."

In Schmidt's "Jahrbücher," Vol. 186, is related a case of severe hæmorrhage after cutting off the left tonsil. Various hæmostatics were tried unsuccessfully, and in three hours the common carotid was tied. In this case the cause of the hæmorrhage was thought to be some abnormal ramification of the vessels.

Other similar cases might be cited, but these will serve to show the importance of bearing in mind the possibility of having to do with a condition such as I have described, and also the need of making a thorough examination before operating on the throat.

#### A CASE OF EMBOLISM OF THE LEFT VERTEBRAL ARTERY, WITH AUTOPSY.<sup>3</sup>

BY F. W. STUART, M.D., OF BOSTON.

G. W., aged sixty-two, came to the Carney Hospital on December 31, 1885, with the following history: His grandfather, father, two brothers and one sister had died of what he called "softening of the brain," and the account given of the disease, rendered it probable that they had had general paresis. In other respects the family history was negative. The patient considered himself well until three years ago, though he had for years been very corpulent, weighing at one time two hundred and fifty pounds. In the fall of 1882, he fell and injured his knee, but attached no importance to the injury, though it obliged him to limp about for a time. Soon after he began to have trouble with his eyes and was operated on for cataract

at the Eye and Ear Infirmary, where he learned incidentally that he had fractured the patella of the left knee.

For the last three years his health had been poor, loss of strength, weight, and appetite being the most prominent symptoms, added to which for the last few months there had been attacks of severe pain in the stomach, and vomiting, which lasted for from twenty-four to forty-eight hours and always began at night, when they were also most severe. The patient was positive that the attacks began about midnight, and the ingestion of food seemed to bear no relation to them.

The vomitus was as a rule, of a black or dark brown color, and once or twice was distinctly like coffee-grounds in appearance. The patient admitted having used alcohol rather freely during his younger days, though for ten years past he had been a total abstainer.

When at the hospital he was cachectic and some chronic affection was suspected. Physical examination failed to reveal anything except a decrease in the area of liver dullness. Careful examination of the urine, chemically and microscopically, showed nothing pathological. No diagnosis being made, an expectant treatment was entered upon, under which the patient improved, and ceased visiting the hospital.

On March 10, 1886, during the service of Dr. W. N. Bullard, he reappeared, and a diagnosis of probable cirrhosis of the liver was made. This was his last visit to the hospital, and nothing further was known of his condition until May 17th, when I was called to attend him.

I then learned that during the interval between March 10th and May 13th, no evident change in the patient's condition had taken place, though he had been subject to attacks of dizziness and dyspnoea, so that he desired to have the windows opened, and these attacks had always been accompanied by profuse sweating.

He had on that day, May 13th, answered the door bell several times, but on returning the last time, he said that he had come near falling, and laid himself on the sofa. He answered several questions put to him by his wife, and nothing further was thought about his condition until an hour later, when it was noticed that he failed to recognize a friend who had entered the room. All attempts to rouse him were in vain, and finally he was put to bed, where after a few hours he became brighter, and it was not until May 17th, four days later, that I was sent for. I found the patient lying apparently comatose, though he could be aroused to answer questions, which he did slowly but intelligently. He moved all of his extremities promptly as requested, and continued to repeat the motion, as it were automatically, not even ceasing always when requested to do so. None the less there was distinct paresis. The patient recognized all visitors, and conversed with them intelligently as far as they noticed. It is certain that he recognized them sufficiently to greet them by name and properly, according to their relationship but a few minutes after they had gone he did not know of their visit, and often asked why they had not called. Difficulty in swallowing, indistinctness of articulation, and incontinence of urine completed the manifest symptoms. When asked if he wished to urinate he would pass considerable quantities of urine at a time, though repeated suggestions failed to relieve the dribbling. There was marked constipation. The patient himself complained only of weakness.

<sup>1</sup> Read before the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, February 9, 1887.

<sup>2</sup> *Eduib. Medical Journal.*

<sup>3</sup> *Lancet*, 1879, Vol. II.

I then called Dr. W. N. Bullard in consultation. The patient's condition was noted to be as above. Physical examination showed the patient to be pale and cachectic in appearance, temperature normal, pulse 80. There was a cataract in the right eye, and iridectomy had been performed on the left, so that both pupils were dilated. The left reacted to light. The reflexes were normal, and no anomaly of sensation could be detected beyond that due to mental obtuseness. Further examination revealed nothing pathological except the small liver.

Though the cause of the existing condition was recognized as distinctly cerebral, the exact nature of the lesion could not be determined upon, though a hæmorrhage was considered to be the probable cause of the trouble.

From this time, May 19th, until his death, the patient lay in bed in a semicomatose condition, replying to questions intelligently, in spite of some aphasia which appeared to be ataxic in character, but when not addressed or otherwise roused, apparently unconscious of his surroundings. There was no aphasia, properly so-called, that is, he always used the proper word when he spoke at all, although his speech was hesitating and indistinct. The paresis, which nowhere amounted to absolute paralysis, continued unabated. There were no convulsions and the patient gradually sank away, becoming constantly weaker and weaker, and died May 27th, ten days after I first saw him.

Autopsy was made May 29th, thirty-six hours after death. The body was of medium development, somewhat emaciated. The relations of the cranium to the head, and of the head to the face, were normal. The cranium alone was opened. The bone was normal in thickness, the dura, everywhere strongly adherent, could not be removed except with great difficulty. The longitudinal and transverse sinuses were empty. The pia mater was much injected, the vessels being dark and swollen. There was no fluid in the meshes of or under the pia which was neither adherent nor thickened. The brain was of normal size and consistency, its bloodvessels everywhere dilated and very prominent. They all contained numerous atheromatous patches, yellow, hard, and not contracting on section of the vessel. These patches occupied one-third to one-quarter of the whole extent of the larger arteries from the vertebral upwards. Between these hardened yellow patches the arteries were dark blue and dilated, though little or no blood was found in them.

There was no fluid in the lateral ventricles. Puncta cruenta were very few and not well-marked. The choroid plexuses were dilated and enlarged. No signs of hæmorrhage or softening were found in the substance of the cerebrum, cerebellum, pons or medulla oblongata. A grayish body the size of a pea was found at the anterior portion of the falx, there adherent. A small white thrombus was found occluding the left vertebral artery and extending into the basilar, which it partly occluded.

—An "American System of Gynecology," Messrs. Lea Brothers & Co., of Philadelphia, is announced as shortly to appear. Among the contributors are such prominent authorities as Professors Barker, Battey, Englemann, Garrigues, Goodell, Reeves Jackson, Lusk, Mundé, Reamy, Thomas, Van de Warker, and others.

## RECENT PROGRESS IN PUBLIC HYGIENE.

BY SAMUEL W. ARDOTT, M.D., SECRETARY MASSACHUSETTS STATE BOARD OF HEALTH.

### WATER-PURIFICATION.<sup>1</sup>

DR. PERCY FRANKLAND's paper upon this subject, before the British Institution of Engineers, is one of general interest, and treats of the effects of the following processes upon purification of water.

- (1) By filtration.
- (2) By agitation with solid particles.
- (3) By precipitation.
- (4) By natural agencies.

The experiments conducted had reference both to the chemical and to the biological phases of the question.

(1) *Filtration.* The following table shows the results of some of the biological experiments, with reference to the effect of filtration.

Filtering material.	Efficiency.	Organisms per cubic centimetre.		Reduction per cent.	Gals. per 100 ft. per hour.
		Unfiltered water.	Filtered water.		
Ferruginous green sand.	Initial.	80	—	100	—
	After 13 days.	8,000	1,000	88	0.73
	After 1 month.	1,280	700	79	1.14
Animal charcoal.	Initial.	Too many to count.	—	100	—
	After 12 days.	2,800	—	100	0.46
	After 1 month.	1,280	7,000	447 <sup>2</sup>	0.76
Iron sponge.	Initial.	80	—	100	—
	After 12 days.	2,800	—	100	0.40
	After 1 month.	1,280	2	99.8	0.45
Pulverised red brick-dust.	Initial.	3,000	730	76.0	—
	After 5 weeks.	6,000	400	93.0	0.48
Coke.	Initial.	3,000	—	100	—
	After 5 weeks.	6,000	90	98.5	0.50

<sup>1</sup> Approximate rate of filtration. <sup>2</sup> Increase.

The unfiltered and filtered waters were both submitted to chemical analysis, and in the case of coke and also of wood-charcoal, the chemical action of the filters was insignificant. The waters employed were urine-water and an aqueous extract of garden-soil.

The filtering stratum was made six inches in depth, and the filtering material made to pass through a sieve of forty meshes to the linear inch.

(2) *Agitation with solid particles.* In these experiments water containing micro-organisms was shaken for a definite length of time with a given quantity of finely divided matter, of similar fineness to that employed in the previous experiments on filtration. The water was allowed to subside and the clarified water submitted to examination — as soon as possible after complete subsidence had taken place — as it appeared probable that if the organisms were simply carried to the bottom by the subsiding particles, without suffering any injury, they would rapidly again become distributed through the upper layers of water by multiplication. This was amply verified by experiment.

*Spongy iron.* Water shaken with one-tenth of its weight of spongy iron for fifteen minutes. Water allowed to subside for a half-hour before examination.

<sup>1</sup> Water purification; its biological and chemical basis. By Percy F. Frankland, Ph.D., Associate of the Royal School of Mines. A paper read before the Institute of Civil Engineers, April, 1886. London.

Result:—Untreated water contained 609 organisms per cubic centimetre; after fifteen minutes agitation contained 63 organisms per cubic centimetre; reduction, 90 per cent.

*Chalk.* Urine water shaken fifteen minutes with one-fiftieth if its weight of chalk and allowed to subside five hours. Result:—Untreated water, 8,000 organisms per cubic centimetre; after agitation 270 organisms per cubic centimetre; reduction, 97 per cent.

*Animal Charcoal.* Urine water shaken fifteen minutes and with one-fiftieth its weight of animal charcoal and allowed to subside five hours. Result:—Untreated water, 8,000 organisms per centimetre; after agitation, 60 organisms per centimetre; reduction, 99 per cent.

Similar experiments with vegetable charcoal and coke showed a reduction respectively of ninety-six and one hundred per cent. after subsidence of twenty-seven and forty-eight hours.

Further experiments showed the process to be unreliable, owing apparently to numerous conditions which are necessary for its success. In some cases the number of organisms in the clear liquid was greatly increased, this being doubtless due to a re-ascension and multiplication of those which were at first carried down.

In one the following result was obtained:—Untreated water, 3,000 organisms per cubic centimetre; after agitation with coke and twenty-six hours subsidence, 20,000 organisms per cubic centimetre.

Experiments were also made with china-clay, brick-dust, plaster-of-Paris, and oxide of manganese with unsatisfactory results.

(3) *Precipitation.* The experiments conducted had reference to the process known as Clark's process, in which lime-water is the precipitant. Upon this process, Dr. Frankland remarks: "the biological efficiency of Dr. Clark's process is markedly superior to its power as a chemical purifier." With reference to care, cleanliness, and attention to details, he also says that failure will inevitably result when such processes are not under proper supervision.

(4) *Purification by natural agencies.* Referring to the effect of prolonged filtration through porous strata of soil, the writer says: Waters obtained from deep wells and deep-seated springs, often contain the merest trace of organic matter, which is only discoverable and capable of being quantitatively determined by the most refined analytical methods. Pasteur has also shown that many of these waters are entirely destitute of organic life, or in other words, are sterile.

Periodical examinations of all the London water-supplies have been made, and have revealed the fact that there is a certain uniformity in the position which the various water-companies occupy as regards freedom from micro-organisms, and also that such position has an unmistakable relation to certain factors in the mode of working, which might be anticipated from theoretical considerations. These are as follows:

(1) Storage capacity for unfiltered water.  
(2) Thickness of fine sand through which filtration is carried on.

(3) Rate of filtration.

(4) Renewal of filter-beds.

Dr. Frankland considers that such coincidence between theory and practice as is shown by the examination of the waters thus treated by filtration, proves

that the problem of biological water-purification is as tangible as the removal of the suspended particles which have for a long time occupied attention.

His final conclusions are as follows:

I. That the complete removal of micro-organisms from water, by filtration, is unattainable without frequent renewal of the best filtering materials, and duly restricting the rate of filtration.

II. That a very great reduction in the amount of organized matter in water may be accomplished by filtering materials which have hitherto been generally regarded as almost ineffectual.

III. That organized matter is to a large extent, and sometimes to a most remarkable extent, removable from water by agitation with suitable solids in a fine state of division, but that such methods of purification are unreliable.

IV. That chemical precipitation is attended with a large reduction in the number of micro-organisms present in the water in which the precipitate is made to form and allowed to subside.

V. That if subsidence, either with agitation or after precipitation, be continued too long, the organisms first carried down may again become redistributed throughout the water.

The discussion which followed the paper was critical and severe, the participants being mainly the engineers and chemists of the different water-supplies of London.

Mr. Wanklyn thought that there was one safe and rational way of regarding organic matter in drinking-water, and that was to assume that it was dangerous, and to classify waters according to the proportion of organic matter present. He attached very little importance to searching after organisms in drinking-water.

Special stress was laid upon the importance of distinguishing between harmless and pathogenic micro-organisms. Dr. Klein was quoted as stating that certain organisms were absolutely inimical to the pathogenic organisms which accompany certain diseases, the latter being unable to exist in the presence of the former, a point of great practical importance, which might account for the occasional immunity of communities supplied with grossly polluted waters.

In Dr. Frankland's closing remarks he stated that his experiments were not conducted with reference to the question of the comparative power of different processes in rendering waters wholesome, but simply to determine to what extent such processes had the power of removing micro-organisms in general. It might be safely assumed, however, that such processes could deal with any kind of micro-organisms, whether harmless or pathogenic. In the matter of filtration, there was no reason to suppose that a pathogenic organism behaved differently from a non-pathogenic organism.

Correspondence was also published from the Directors of the Berlin water-works, inclosing a summary of the investigations of the Imperial Board of Health as to the quality of the Berlin water-supply as affected by filtration through sand. This sand was of a diameter or fineness of one-half to one millimetre, the bed being sixty-two centimetres in thickness.

The two great works which supply Berlin with water are the Stralau and the Tegel, the former having eight open and three covered filter-beds with an area of 37,500 meters. From 2.88 to 3.12 cubic

metres of water are filtered daily per square metre of area. The works at Lake Tegel have an area of 20,000 square metres in ten filter-beds, to which have been added seven more. The quality of the water is tested weekly by chemical analysis, and since 1884 both chemically and biologically. The tests extended to the following particulars:

Temperature, color, freedom from odor, taste and turbidity. Contents in micro-organisms.

Chemically, as to chlorides, sulphates, nitrates, nitrites, sulphuretted hydrogen, ammonia, lime, iron, qualitatively, and quantitatively as to residue, loss in combustion, chlorine, nitric acid, ammonia and lime.

Color as seen through twenty centimetres of water, taste and smell when cold and when heated are noted.

The biological examination was conducted with the microscope and by means of pure cultivation with ten per cent. meat-juice-peptone-gelatin, one cubic centimetre of water being employed.

The diagram presented is selected from the *Arbeiten aus dem Kaiserlichen Gesundheitsamte* to illustrate the effect of sand-filtration, both chemically and biologically, upon the waters supplied to the city of Berlin.

#### PURIFICATION OF SEWAGE.

At the Thirteenth Convention of the German Association for Public Health held at Breslau, in September, 1886,<sup>2</sup> Professor Arnold, of Brunswick, presented for consideration the different methods of sewage disposal at several German cities, especially at Frankfurt, Wiesbaden, Halle, and Essen. The system conducted at Essen (and also at a few other places) is known as the Rökner-Rothe process. It is also in operation at Dortmund. The treatment is both mechanical and chemical. The chemical agents employed vary in accordance with the composition of the sewage to be dealt with, but it is claimed that their utilization is so complete that a relatively small quantity suffices at a moderate cost.

The sewage is at first admitted through a strainer to a catch-basin where the sand and coarse sludge settles, while the effluent flows through a salmon-ladder trough (misch canal) where it is exposed to the air and treated first with milk-of-lime, and then with other chemicals (the composition of which is not stated). From the trough it passes through a pipe and an apparatus shaped like an umbrella, to a tank, which, as well as the catch-basin, is shaped like an inverted cone. The precipitate of the sewage thus treated, here settles, and the sludge is pumped away, together with that which collects in the catch-basin.

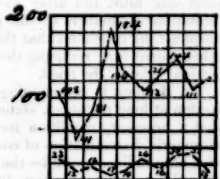
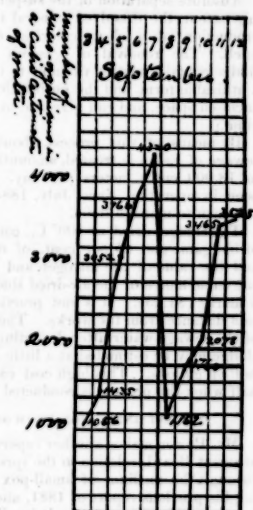
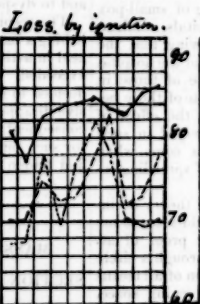
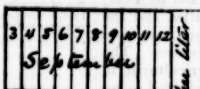
Above the tanks (which are five metres in depth), are placed inverted iron cylinders, air-tight, from seven to eight metres in height with their lower edges dipping below the surface of the sewage-level.

The upper part of the cylinders are connected with an air-pump, by the action of which the sewage (after passing through the umbrella-shaped apparatus, and then underneath its edge), rises slowly in the cylinder

#### EFFECT OF FILTRATION THROUGH SAND, STRALAN WATERWORKS, BERLIN.

Covered Filter No. 9 and Open Filter No. 4.

Water before Filtration, . . . . . Black line, ———  
Water after Filtration, Open Filter, . . . . . Broken line, - - - - -  
Water after Filtration, Covered Filter, Dotted line, . . . . .



<sup>2</sup> Vierteljahrsschrift für öffentliche Gesundheitspflege. B. 19. H. 1. 1887, and Centralblatt für Gesundheitspflege.

in consequence of the vacuum produced. The effluent flows away near the top of the cylinder, through an ingeniously contrived syphon, and the grease is separated by itself.

By the continuous, slow, upward movement of the sewage, treated by the chemicals, the precipitate is allowed to deposit at the bottom. The presence of this sludge acts also as a filter for the subsequent sewage, and this avoids waste of chemicals, which under ordinary methods settle to the bottom, and thus have no further action on the liquid to be treated.

Dr. Kayser, of Dortmund, sets forth the following advantages of this method of treatment:

Absolute separation of the suspended, and to a certain extent, the dissolved mineral impurities, and the production of a clean colorless effluent, free from smell. The removal of gaseous admixtures. The sludge contains matter valuable to the agriculturist in a utilizable form, and the purification is effected in an enclosed space, and can give rise to no noxious effluvia.

By means of this process, about one-fourth of the sewage of Essen is treated, amounting in wet weather to 18,000 cubic meters per day. The works have been in operation since July, 1885, and require but two men to manage them.

The sludge dried at 100° C., contains 75 per cent. of inorganic and 25 per cent. of organic substances, and the value of the nitrogen and the phosphates in one cubic metre of the air-dried sludge is estimated at 5 marks (\$1.25). It is not practicable to convey it to a distance from the works. The cost of treatment of the sewage-water after deducting the value of the sludge may be estimated at a little less than \$12 per million gallons. This high cost can be reduced one-half when the process is conducted on a large scale.

#### DISTANT INFECTION FROM SMALL-POX.\*

Mr. Power makes another report to the Local Government Board, relative to the spreading of small-pox through the medium of small-pox hospitals, confirming his previous report of 1881, and showing that the houses within the area of a half-mile from the hospital had been attacked at three times the rate of those in the next half-mile, and four times the rate of those beyond one mile, and after having tried the effect of limitation of numbers of the persons treated in such hospitals, he concludes that the time has come when other means for "reducing the chance of spreading infection" should be tried.

Dr. Bridges, in commenting upon the theory of infection at long distances, states, "it would seem to me that a necessary condition for scientific proof of atmospheric dissemination of contagion through a circle of a mile radius, would be the elimination of all means of ordinary communication in the intervening space. This would imply the necessity of choosing for observations the neighborhood of a hospital situated a mile away from inhabited houses, and where adequate care was taken to keep the inhabitants from contact with the hospital, or with other sources of contagion. Certain facts brought before the Royal Commission appeared to indicate that, where a really secluded population like that of a workhouse, or prison, was brought into very close contiguity to a small-pox hospital, no infection followed, even though no special precaution

had been taken to protect that population by revaccination. I do not think that quite sufficient weight has been attached to these facts by those who regard the theory of atmospheric contagion at long distances as proved."

#### PRESERVATION OF ANIMAL VACCINE VIRUS.

The length of time during which animal lymph proves effective, as ascertained in the experience of Dr. Cory, was as follows: This lymph was collected at a period not later than 120 hours from the time of vaccination of the animal.<sup>4</sup>

No. of days for which lymph was preserved in tubes before using	No. of insertions with it on calves.	Successful insertions on calves.	Insertion success-rate per cent.
2	3996	3390	84.7
4	1438	1139	79.2
6 to 8	285	184	64.5
9	431	309	71.6
11 to 12	337	273	81.3
14	263	214	81.3
16	288	297	71.9
17 to 46	639	472	73.8
53 to 93	445	332	74.6
100 to 200	354	256	66.5
200 to 500	191	17	16.3
500 to 600	135	45	33.3
600 to 700	82	24	29.0
816 to 828	72	4	5.5

#### FOOD PRESERVATIVES.<sup>5</sup>

The French Academy of Medicine has considered the question of the propriety of employing salicylic acid for the purpose of preserving articles of food and drink. The committee appointed for the purpose reported through Dr. E. Vallin, adverse to the practice.

The first proposition under consideration was the effect upon health of moderate doses of salicylic acid continued for a period of several months or years. He concludes that such use would be especially injurious to the aged, to persons affected with renal diseases, and to dyspeptics.

The second proposition as to the propriety of establishing a maximum limit, for the presence of salicylic acid in articles of food and drink, which should not be exceeded without penalty. Such a measure was deemed to be impracticable, on account of the progressive disappearance of the acid in such articles, and the consequent difficulty of chemical analysis. Its use for such purposes is forbidden in Switzerland, Bavaria and Baden.

### Reports of Societies.

#### MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

MEETING February 9, 1887.

DR. F. W. STUART read a paper upon

THROMBOSIS OF THE LEFT VERTEBRAL ARTERY,  
WITH AUTOPSY.<sup>1</sup>

DR. W. N. BULLARD opened the discussion of this subject. He said that this case is of interest for several

<sup>1</sup> See page 304 of the Journal.

<sup>4</sup> Fifteenth Annual Report of Local Government Board of England, 1886, page 28.

<sup>5</sup> Revue d'Hygiene, February, 1887, page 89.

<sup>3</sup> Dr. J. H. Bridges's Memorandum to Local Government Board, January 10, 1887.

reasons. In the first place carefully reported cases of thrombosis of the vertebral, and still more of the basilar artery with autopsies are not common. In regard to the basilar, the more important were those of Hayem and Mayet's case.

In most reported cases of thrombosis of the basilar artery death has been rapid. In this case the symptoms were developed slowly and in a more or less distinct succession, enabling us to see their gradual progression.

At the post-mortem examination, the walls of the large and medium-sized arteries throughout at least one-third of their extent were found hardened so that they did not contract and the passage of the blood through them must have been more or less retarded both by their inelasticity and by the unevenness of the calibre in different parts of the same vessel. In some portions the lumen seemed nearly obliterated, while farther on it was in appearance increased in size. If such thrombosis as existed here should occur in a subject whose vascular channels were in a normal condition it is doubtful if a fatal result would follow. As a fact, in a person whose cerebral arteries are healthy one or both of the vertebrals may be tied without serious results, so far as the cerebral circulation is concerned. Here the occlusion of the basilar at least was only partial and with the complication of extensively degenerated (atheromatous) arteries and a weak heart death occurred from progressive cerebral anemia. The special value of a case of this character is that it directs attention to the important fact that in case of surgical operation, before undertaking the ligature of the large arteries which supply the cerebral circulation, the probable condition of the arteries of the brain should be carefully considered, and where there is reasonable ground for suspecting the existence of extensive atheroma, such operations should be considered contraindicated.

In such cases as this a complete examination of the urine should always be made. In this one there was no evidence of disease of the kidneys, so far as could be determined in this way.

DR. J. J. PUTNAM observed that in cases in which occlusion of one vertebral artery would occasion such serious effects, the collateral circulation is for some reason not easily re-established in the domain of the occluded vessel. When the vertebral is tied as a surgical measure, the ligature is applied at a point upon the vessel very much lower down than was the seat of the thrombosis in this case, and consequently does not include that portion of the trunk of the vessel from which the branches to the medulla and pons are given off. The occurrence of a thrombus at this latter higher point might easily effect the circulation in these important centres of the nervous system, and thus occasion the fatal result by progressive interference with the functions of circulation and respiration. Dr. Putnam mentioned the case of an aphasic in which there was no paralysis.

DR. BULLARD remarked that headache is one of the well-recognized symptoms of cerebral thrombosis. In those cases, in which severe headache is associated with muscular weakness there is often found a thrombosis of some cerebral vessel. In the case reported by Dr. Stuart, there was no paralysis at all, except possibly in relation to the sphincters. The right vertebral artery was found to be of the same size as the left.

DR. PUTNAM added that headache is frequently a symptom common to any severe form of cerebral disease. In two cases seen by him, in which there was persistent headache, one was in a woman who had syphilis, in which the headache was very severe, and was followed by aphasia, with complete relief to the pain in the head. The second was in a man, in which the headache had lasted for a year, and was followed by cerebral disease and sudden death.

DR. J. W. FARLOW presented a report of

#### FIVE CASES OF LARGE PULSATING ARTERY<sup>2</sup>

on the posterior wall of the pharynx. The report was accompanied by a series of illustrations showing the appearances of the pharynx, and the probable origin of the unusual vessel which occupied this strange location. Dr. Farlow stated that Dr. Otis has described the relations of the carotid artery to the tonsil, and has called attention to the possibility of dangerous hemorrhage from such an anomaly, but no one has alluded to the occurrence of alarming hemorrhage from this hitherto unrecognized cause.

DR. T. A. DEBLOIS said that he had the favorable opportunity to observe two of the patients which were contained in the list of Dr. Farlow's cases, and also saw the case observed by Dr. Morgan in Washington. Dr. DeBlois had a case in his department at the Boston City Hospital, in which after tonsillotomy, there was a most alarming hemorrhage, which continued in spite of all efforts to control it, until at the end of three and a half hours the patient fainted, when it gradually ceased, and gave no further trouble. The possibility of the anomalous distribution of the pharyngeal bloodvessels should also be borne in mind in the operation for retro-pharyngeal abscess, by which they might easily be wounded. In this case they could probably be felt by the finger in the throat, though they would probably not be visible.

DR. E. W. CUSHING stated that he once performed the operation of tonsillotomy which was followed by a terrible hemorrhage, which resisted all treatment for its control until the patient was almost exsanguine. The patient became very weak, but at last the bleeding was stayed. Dr. Cushing said that while endeavoring to control the hemorrhage, he was so unfortunate as to infect the patient's system with the germs of some septic process of which the patient died some days later, after all danger of further loss of blood had entirely disappeared. This should teach us that we should be cautious in our treatment of any condition to employ all possible precautions in the avoidance of the chances of septic poisoning.

Adjourned at 10.20 o'clock.

#### THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, March 3, 1887.

DR. WM. H. THOMPSON read a paper on

THE PATHOLOGY AND TREATMENT OF EPILEPSY, BASED ON NOTES OF SIXTY CONSECUTIVE CASES IN PRIVATE PRACTICE.

At the outset he related the case of a gentleman who was subject to sudden and transitory attacks of aphasia, always without any loss of consciousness whatever, and without the least sign of motor disturb-

ance of any kind. The phenomena of an epileptic fit were usually described as consisting, first, of an initial coma, second, loss of consciousness, third, convulsions; but, notwithstanding the prevalent opinion as to the essential clinical characters of the disease, he believed this case to be one of true epilepsy.

He then proceeded to inquire what the essential and invariable element in epilepsy really was, and expressed his conviction that it was *suddenness*. Epilepsy, he said, was the single truly sudden disease. The only affections which resembled it in this particular were laryngismus stridulus, and spasmodic asthma; but in them the suddenness of the attack was not absolute, as in epilepsy. Apoplexy, hemiplegia, and sunstroke could not strictly be compared with it, as they were in reality accidents. The attacks of hysteria and of neuralgia were not nearly so sudden as those of epilepsy. Other affections were more or less progressive in their onset. The only apparent exception was angina pectoris; but this affection was of the nature of shock. All recurring symptoms coming on suddenly, such as nausea, vesical disturbances, headache, etc., were ominous, as they might perhaps be the beginning of epilepsy. The importance of this element of suddenness could not, he thought, be overrated. *Petit mal* he considered the most real, as well as the most objectionable, form of epilepsy.

Dr. Thompson then referred to the cell discharge or explosive theory of epilepsy, and quoted Hughlings Jackson in regard to it. The exhaustion of the cells of the sensorium, he thought, was the result of the discharge which had taken place. In this connection he spoke of Nothnagel's "convulsion centre," and said that if no form of epilepsy except the *petit mal* had ever been observed, he felt certain that the explosive theory would never have been proposed. In answer to the views of Jackson and Gower he would state that in every convulsive seizure a motor discharge was granted, but to say that the first event in an attack of epilepsy was a motor discharge was quite a different matter. All motor phenomena, except the voluntary, he believed, were under the control of sensory impulse, and a sudden suspension of the regulating sensory impression might result from various causes. Any irregular motor phenomena were, therefore, due to a loss of the customary sensory influence. This explained the clinical facts of epilepsy without the necessity of supposing any additional nervous force to be called into action. It was comparable to the jar imparted to an ocean steamer when by the height of a wave the propeller was lifted out of the water; the customary resistance of the latter being temporarily withdrawn, but the power which turned the screw remaining the same.

He then referred to pleuritic epilepsy, the result of the injection into the pleural cavity of weak solutions of iodine, carbolic acid, etc. In cases of this kind the face became pale, respiration was suspended, and the pulse could scarcely be felt. Spasms, at first confined to one side of the face, afterwards became general, and finally there was epileptic coma. In a number of instances death had resulted; but no lesion of the brain was discovered at the autopsy. The effects here produced were certainly not due to the therapeutical agent employed, but were the result of a quite unusual impression upon the nerves of a cavity, wholly unaccustomed to this kind of an irritation. Of a similar character were the experiments of Brown-Sequard,

who found that in guinea-pigs and some other animals section of the spinal cord, or even of one or both sciatic nerves, was followed by well-marked epileptiform fits.

Dr. Thompson considered the phenomena of epilepsy to be due to the effect of our afferent sensory impression when there was present some abnormal condition of the cells of the nerve-centres. What this condition was, he was not prepared to say, but it seemed probable to him that it was one of malnutrition. It might be asked if he would assert that all cases of epilepsy were attended with sensory impressions in the face of the well-known fact that in certain instances there were definite lesions of the brain present. The answer was, that we do not get rid of the sensory element when we enter the cranial cavity. There is a sensory, as well as a motor, aphasia. A syphilitic gumma of the brain may be as truly an excitant of sensory irritability as an external influence; and the same is true of any source of irritation in the brain. He did not hesitate to acknowledge that a motor current could be excited by the application of an electric current after trephining the skull; but the explanation of the phenomena noted, he believed, to be in the fact of a wholly unaccustomed irritation in a centre habituated to act in response to sensory impressions. The hypothesis of a sudden impression of the ordinary sensory functions, he believed, most fully explained all the phenomena of epilepsy.

Ever since he became satisfied in his own mind that the lesion of epilepsy was to be found in the sensory, rather than the motor, centres, Dr. Thompson said he had conducted his treatment in accordance with this view; and, as a result, he had grown less skeptical than formerly of the advantages of treatment in this disease. The first thing that he arrived at was the improvement of nerve-nutrition, and by far the best agent at our command for this purpose was cod liver oil. It increased the number of blood-corpuscles more rapidly than iron, and had a greater effect upon nutrition than any other remedy. It was particularly indicated in malnutrition of the nervous system because the nerve-tissue was normally richer in blood-fat than any other tissue of the body. Hence it was to be regarded as the great prophylactic in all neurotic families. In epilepsy he never failed to prescribe it as regularly as he did in phthisis. Another advantage that it had was that it counteracted in a very successful manner the debilitating effects of the bromides. Phosphorus he had also found of much service in improving nerve-nutrition, and he usually employed it in the form of the official syrup of the hypophosphites, with the addition of one-fifth part of dilute phosphoric acid. An important part of the treatment was, in his opinion, the total exclusion of all butcher meat for a period of two years; though poultry and fish were permissible. Animal diet, he believed, predisposed to convulsions in direct proportion to the quantity in which it was used. The tendency to convulsions in the carnivora, and the absence of this in herbivorous animals, were due in his opinion to the respective diet of each class. Another thing to be avoided was eating fast, as the too rapid mastication and swallowing of food seemed to act directly on the convulsive centre of the medulla oblongata. It was possible that the habit of eating too fast might thus induce confirmed epilepsy.

Like the great mass of physicians, he had come to

place great reliance on the use of the bromides, which so successfully control peripheric irritation. If any one doubted this, let him give thirty grains of bromide of potassium to a patient with intolerant fauces in whose case he wished to make a laryngeal examination. In the long-continued use of the remedy the great thing was to control the effects of bromism.

Dr. Thompson had found that in forty per cent. of the cases observed by him, there was persistent cortical irritation, as indicated by muscular twitching during sleep, and in this class of cases he was in the habit of employing the bichloride of mercury, and sometimes oleate of mercury by inunction. This mercurial treatment he had found a very useful adjuvant to the bromides.

He used belladonna or zinc oxide in all cases in which the attacks showed any connection with disturbances in the alimentary canal. When there was reflex irritability he employed chloral hydrate or Hoffmann's anodyne in addition to the bromides. Digitalis was used in all cases characterized by vascular disturbance, or when there was involuntary discharge of urine during the epileptic attack. The published experience of Dr. Newington, who found that hot mustard baths were very useful in acute mania by cutting short the attack and inducing sleep, had led him to employ a red pepper paste at night, (one drachm of capsicum being used to the pint of hot water for this purpose), in a certain proportion of cases. In one instance, at his college clinic, a patient who ordinarily had two epileptic attacks a day did not have a single one for some weeks after this measure was resorted to; the disease being completely arrested by the peripheral excitation thus secured. These points showed, he thought, the direction in which efforts should be made by which better results might be expected in the future, and thus relieve the treatment of the grievous burden of empiricism which it had borne so long.

Dr. PUTZEL said that from a clinical point of view he did not think that Dr. Thompson's assertion that the attack was always sudden could be maintained. It was a well-established fact that there was a certain proportion of cases in which there were prodromata often lasting two or three days, or longer, such as digestive or mental disturbances. In regard to Hughlings Jackson's views, it was simply claimed by him that there was an explosive discharge of nerve-cells in epilepsy, but he did not imply that this discharge was from the motor cells especially. In fact, Dr. Putzel could not see how, in view of his well-known opinions upon this disease, he could confine the phenomena to the motor cells, since he claimed that such conditions as hemiparesis, for instance, belonged to epilepsy. Furthermore, he held that an aura which may be purely mental, may at times constitute the whole attack.

Dr. Putzel thought that in *petit mal* paralytic symptoms were extremely rare. Paralytic trouble, in his opinion, was usually met with after prolonged convulsions, and occurred as the result of the exhaustion incident thereto. Besides, he could not understand how the sensory impulse inhibits the motor, as stated by Dr. Thompson. In regard to so-called pleuritic epilepsy, it was not proved that the convulsions in the cases referred to were epileptic. They were, no doubt, epileptiform, but unless a convulsive habit was established, they could not, in his opinion, be said to

belong to true epilepsy. In the same way, he did not think that the convulsions of children in teething, the attack being merely the result of a temporary local irritation, could be called epilepsy, although they were often epileptiform in character. Belladonna he had used principally in nocturnal epilepsy, in conjunction with the bromides. He agreed with Dr. Thompson that epilepsy was a disease of impaired nutrition, and that cod liver oil was often, therefore, of very great benefit in the treatment.

Dr. WM. H. DRAPER said that as regards the pathology of epilepsy, the author of the paper did not seem to have thrown much light upon that obscure subject. He had confounded with the disease certain convulsive affections which he did not think could be regarded at all as epileptic. As Dr. Putzel had remarked, he had spoken of convulsions produced by a variety of peripheral irritations as if they were true epilepsy, and in this opinion he could not agree. In infants and others we often met with conditions in which convulsions were so easily induced, and which so readily disappeared under treatment adapted to remove the source of irritation and improve the nutrition, that he did not think that these temporary conditions could properly be compared with that grave affection which we call epilepsy.

In regard to the management, he said that he agreed with Dr. Thompson as to the treatment of the impaired nutrition which was so common with cod liver oil and tonics. In addition to improving the general nutrition it was necessary to study very carefully the peripheral irritation which produced the attack; and in a large number of cases he had found that this was to be looked for in the gastro-intestinal tract. He could not say that he agreed with Dr. Thompson as to the danger of animal food in epilepsy. On the contrary, he was inclined to think that the origination of an attack was much more likely to follow the too free ingestion of starchy food and sweets. He preferred, therefore, that his patients should use principally animal food and milk, and take a diminished quantity of the carbo-hydrates; and very good results had followed the adoption of this plan of diet.

The next most important thing was the administration of some drug having the effect of diminishing the extreme excitability of the nervous centres which was always the essential precursor of an attack of epilepsy. For this purpose, nothing was equal to the bromides. These were all the elements of a rational treatment of this disease, and yet he presumed that it was the experience of every physician present that there were certain cases in which all the measures referred to were of little real value. Bromide of potassium sometimes signally failed unless pushed to the point of producing the most profound bromism; so that the patient preferred to have fits at regular intervals rather than endure the wretched hebetude which the drug induced.

Dr. E. DARWIN HUDSON, JR., said that in epilepsy the attack was characterized by a withdrawal of mental control and unconsciousness, and that he had never met with but one case of convulsions in which consciousness was retained. He believed that in this disease there was cerebral anemia and an explosion due to disturbance of the vascular equilibrium. From a clinical standpoint it was often difficult to say what constituted epileptiform attacks and what true epilepsy. Successive seizures produced by peripheral irritation

not infrequently seemed to eventually result in epilepsy if they were allowed to go on without interference. He agreed with the other speakers that the bromides constituted the most reliable means of treatment.

DR. THOMPSON said that he did not mean to imply that epileptic attacks have no prodromata. On the contrary, it was extremely common in his experience to meet with patients who were almost always aware of the imminence of an attack. But a prodroma was not the attack itself, and it was this that he particularly referred to when speaking of the suddenness of the affection. He had studied this matter with especial care, and his conclusion was that epilepsy is to be distinguished from all other diseases by its suddenness. In regard to Hughlings Jackson's views, he said that he never understood his statements as applying only to motor discharges; but it certainly was a fact that he particularly dwelt upon the explosion of motor cells. Instead of regarding sensory impulses as being of a stimulating character, Dr. Thompson said he was inclined to look upon these as a regulating force. Hence the study of the connection between any motor disturbance and the antecedent sensory impression, seemed to him of importance as indicating the direction in which advances in our knowledge of epilepsy were to be looked for.

In regard to confounding all sorts of convulsions with epilepsy, he remarked that Dr. Putzel and others who had spoken did not regard the convulsions of dentition as of an epileptic character; but he had compared these attacks very carefully with those of acknowledged epilepsy, and he had been entirely unable to discover any difference whatever between the two. First births, and especially when the children were males, he went on to say, gave a larger percentage of cases of epilepsy than subsequent ones, on account of the greater compression of the brain to which the infants were subjected during the process of labor. He then related a case of his own in which on account of contracted pelvis, there was great delay in the delivering of the child, and after it was born, he had been obliged to use oxygen gas for three hours in order to resuscitate it. When it was nine months old the child began to have convulsions, and these continued from time to time until its death, at the age of seven years. He studied the attacks in this case with great care, to see if there was any difference between them and the ordinary convulsions of children from dentition, and he became convinced that a more mythical distinction could not exist.

DR. DRAPER replied that in saying that convulsions were epileptiform he implied mainly that they had the form of epilepsy, but not the substance. He thought there was a great difference between these temporary seizures and the regular occurrence of seizures in true epilepsy. In the form of attack he was quite willing to acknowledge there was no perceptible difference.

DR. A. D. ROCKWELL read a paper on

#### THE VALUE OF ELECTRICITY IN THE TREATMENT OF EPILEPSY.

There were a certain proportion of cases of epilepsy which failed to receive permanent benefit from the use of the bromides, as usually employed, but which apparently completely recovered after the assistance of electricity had been invoked, in connection with the bromides; epilepsy was in this respect analogous to

chorea. Arsenic was universally acknowledged to be a remedy of the greatest value in this affection; but there are certain cases in which it failed to afford relief unless its use was supplemented by electricity. Dr. Meredith Clymer, in some excellent remarks on the treatment of epilepsy, stated that he had never heard of a permanent cure of the disease under the use of the bromides, either alone or in combination. While this might be regarded as an extreme statement, the suggestion that the best results will follow only if we call to our aid every measure that will tend to increase and develop vital power would generally, command itself to all.

It was not alone, therefore, on the theory of a special influence on the nerve centres, or over the cerebral circulation, that he employed electricity as an adjuvant to the bromides, but also because of its undoubted and powerful constitutional effects. It was a tonic, but it had both stimulating and sedative effects. In 1878 Dr. Rockwell said he had read a preliminary paper on the treatment of epilepsy by electricity, but it was since that date that he had obtained the best results with this agent. In this, as in various other forms of central disease, he almost always associated and alternated central galvanization with general faradization.

Central galvanization was analogous in its effects to the bromides; producing a profound tendency to drowsiness. In some cases sound sleep had been induced with the subject in an upright position, while receiving the current through the brain. He recalled one patient under treatment by central galvanization who was repeatedly put to sleep within a minute after the beginning of the application. In epilepsy there was a disturbance of the centres of the cerebro-spinal system. There was an hyper-excitability of the nerve-cells, which was dynamic rather than physical; and this hyper-excitability was kept in check by galvanism as readily as by the bromides.

The total number of cases in which he had employed electricity was twenty-eight, but ten of the patients had abandoned the treatment too early to allow any conclusions to be drawn from them. In three cases the electricity seemed in no way to assist the action of the bromides. In eight cases the use of electricity was attended with a certain amount of benefit, varying in different instances, but not to such a marked degree as in the remaining seven cases. In two of these the patients recovered entirely, and in the other five there was very decided improvement.

Among the conclusions arrived at by Dr. Rockwell are the following:

Electricity possesses a certain value in the treatment of epilepsy.

It is not claimed that it can alone cure the disease, but in many instances it is of great service as an adjuvant to the bromides.

In the nocturnal variety its good effects are especially marked.

The methods of application should be central galvanization and general faradization.

It is important that the agent should be administered with great care. Anything like a shock should be avoided, and the applications should not be continued too long at a time.

The treatment should be kept up, with suitable intermissions, for two years after the last occurrence of epileptic symptoms.

THE BOSTON  
**Medical and Surgical Journal.**

THURSDAY, MARCH 31, 1887.

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THE CAUSE OF CONTRACTURES IN LATERAL SCLEROSIS OF THE SPINAL CORD.

THE symptoms by which primary, amyotrophic, lateral sclerosis are principally known have been well described by Charcot in his masterly treatise, and consist in a progressive paresis, first in the superior, then in the inferior members, with slowly-developing atrophy of the affected muscles, complicated, in the second stage of the disease, by contracture of those muscles. The attitude of the arm, forearm, and hands is very striking. The arm is applied to the body, and the muscles of the shoulder resist when any attempt is made to separate this member from the trunk. The forearm is semi-flexed and in pronation, and it is impossible to bend it without pain; the hand is rigidly flexed on the wrist, and the fingers curved into the palm of the hand. Subsequently, the same kind of spasmodic rigidity affects the lower extremities.

Vulpian, who has been conspicuously successful in wrestling with the great problems of nervous physiology, has endeavored, in a work just published,<sup>1</sup> to furnish an explanation of the pathogeny of this contracture. It is a symptom which appears almost invariably when the lateral tracts in their posterior parts are the seat of sclerosis, whether this be primary or secondary (descending degeneration from encephalic lesions). It is also very commonly witnessed in multiple sclerosis, and in primary sclerosis of the posterior columns, complicated with sclerosis of the contiguous portions of the lateral columns.

In answer to the question: "Is it the destruction of these parts of the lateral columns which determines the muscular spasms, the contracture, or is it the irritation of these parts?" Vulpian replies: "It is not their destruction." In numerous instances, he has practised in animals ablation of these columns, in their entirety, upon a limited portion of the cord. The animal (a chloralized dog) has come out of the anesthesia of the operation paralyzed in the posterior extremities, which were completely flaccid, and, till the time of its death, there was never any contracture.

<sup>1</sup> Vulpian. "Maladies de la Moelle," t. II, Paris, 1887.

Generalizing from these experiments, Vulpian concludes that simple loss of function of these pyramids in man will not cause contracture, but that this symptom must be due to the irritation, of which the lateral columns are the seat in cases of sclerosis of these regions of the cord.

Some striking experiments have given support to this view. In dogs profoundly chloralized, he has exposed the spinal cord in the dorso-lumbar region to the extent of two to three centimeters, and carefully cauterized the lateral tracts with a crayon of nitrate of silver, or a knitting-needle heated in the flame of a spirit-lamp. When the experiment was well made (that is, when the cauterization was limited to one lateral column), he always observed contracture of the posterior limb of the corresponding side. It is true that this contracture did not generally last but two or three days, but this could be explained in this way: Experimental irritations have not the persistence of morbid irritations; if they are of feeble intensity, they are soon extinguished; if they are of great intensity, they rapidly determine a destruction of tissue, which prevents their effects from lasting. In Vulpian's experiments, the spasmodic rigidity was always followed by paralysis, more or less complete. The appearance of this paralysis at the moment when the lateral column which has been cauterized begins to undergo softening proves, Vulpian adds, that the contracture is not due to the cessation of action of the part cauterized, but to the process of irritation there set up. An argument leading to the same interpretation is furnished by the fact that the contracture does not appear as soon as the animal begins to come out of the chloral sleep, as would be the case if the spasm had for its cause the abolition of the functions of the lateral column. It is only at the end of two or three hours after the return of the animal to complete consciousness that the contracture manifests itself.

These considerations lead to the conclusion that the contractures are due to the irritation, of which the lateral columns are the seat.

Are these spasmodic phenomena the direct results of irritation of the motor fibres of the lateral conducting tracts of the cord? If that were so, sclerosis of these motor conduits should be constantly complicated with a state of spasmodic contraction of the muscles of the members which receive their nerves from the altered regions of the cord. Unfortunately for this view, many cases of symmetrical lateral sclerosis have been observed and published, in which there was little or no contracture of the muscles of the members, or of the trunk. Even in cases where the superior extremities were contracted in a marked degree, the inferior members have often been found free from spasm, and yet the autopsy has proved that the pyramidal regions of the lateral columns were altered below the points of origin of the nerves of the lower extremities. These facts seem to militate against the view that the contractures are due simply to irritation of the motor fibres in the lateral conducting tracts.

These considerations have compelled Vulpian to regard the irritation which causes the contractures in symmetrical lateral sclerosis as of a reflex kind. It has been shown that the posterior region of the lateral columns contains excito-motor nerve-fibres, connected with both horns of gray matter, and this part of the lateral columns seldom escapes participation in the morbid process in primary sclerosis of those columns. Even the pyramidal tracts of the lateral columns contain a small number, though variable, of excito-motor fibres. Moreover, the posterior horns of gray matter, on which borders the portion of the lateral columns which undergoes alteration in symmetrical lateral sclerosis, is rich, both in sensory and excito-motor elements. Of these three groups of excito-motor and sensory elements, which has the principal rôle in the production of contracture? There is every reason to believe, says Vulpian, that the irritation starts in certain of the sensory or excito-motor elements of the posterior cornua. If the contracture were due to irritation of the excito-motor fibres of the lateral columns, it should be a constant phenomena in sclerosis of those tracts, which cannot be affirmed. If it were due to irritation of the postero-cortical layer of the lateral columns, it should often be witnessed in sclerosis of the posterior columns, while, in fact, contracture is of exceptional occurrence in this disease.

The explanation of the contracture, then, is this: "In cases where the irritation of the lateral columns propagates itself to the excito-motor or sensory elements of the posterior horns, the persistent excitation of these elements provokes the continuous activity of certain groups of cells of the anterior horns, and thus gives rise to tonic contractions of the muscles which are supplied by nerves taking their origin in those cells."

"This physiological interpretation seems to harmonize with the results of the examination of the medullary reflex function in patients affected with lateral sclerosis, and in whom contractures tend to manifest themselves, or already exist. The reflex function in these cases is always exalted, as is shown by the exaggeration of the reflex movements provoked by the percussion of the tendons (the tendo-Achillis, the patella-tendon, etc.), and it is further exemplified by the reflex trepidation of the foot when flexed on the leg, and by the spasmodic tremblings which manifest themselves, under slight provocations, in different parts of the body."

#### A MASSACHUSETTS LAW FOR REGISTRATION IN DENTISTRY.

OUR readers have already been informed that the Committee on Public Health of the Massachusetts Legislature reported a bill providing for the establishment of a Board for Registration in Dentistry — a measure similar, in many respects, to the one which was passed a year or two ago with regard to practitioners of pharmacy.

The Dentistry Bill was carried successfully through the House, but, on reaching the Senate, for some reason, presumably because it was not understood by the members, it was defeated without much discussion, on its passage to a third reading, by a vote of 13 to 8, which vote gave rise to the statement in our last issue. That this action was taken somewhat in the dark was shown by the fact that a motion to reconsider received unanimous sanction the following day, when, after a moderate discussion, the bill was passed. According to the provisions of the bill, a Board of five examiners is to be appointed by the Governor and Council, to consist of dentists of good repute, who are not connected pecuniarily with any dental college. This Board is to register the name of every person engaged in the practice of dentistry within the Commonwealth, such practitioners to make oath to the fact before a notary public, and then to be allowed to practise under the license of the Board. All other persons desiring to practice dentistry are to be examined either orally, or by written test by the Board, and, if found qualified, to be certified as legally authorized to practice. The original proposition, to admit to practice all graduates of dental schools, on presentation of their diplomas, is thus seen to have been modified in the direction of a healthy stringency, by requiring actual knowledge, in the place of reputed knowledge.

All persons practising dentistry otherwise than according to the preceding regulations are punishable by fine or imprisonment, except that practising physicians, graduates from the medical department of any incorporated college, are exempt from the provisions of the act.

A somewhat similar bill was passed by the Legislature in 1882, but was found to conflict with the charter of the Massachusetts Medical Society, in abridging the privileges of practice conferred on its members; and, after that defect had been corrected, the bill was vetoed by Governor Long, it is said because it required applicants for registration to be graduates of some college, and, therefore, was held to savor of intolerance and exclusiveness.

The chief defects of the present bill, which we nevertheless regard as, on the whole, a desirable and proper one, are, first, that the protection of the public is interfered with by the inclusion within the pale of registration of all existing practitioners, in whom any amount of incompetence and ignorance is covered up by the fact of their being actually engaged in dental practice at the time the bill becomes law; so that it will be a generation before the existing incompetent dentists are eliminated from the profession, and the public is protected from their blunders.

Again, the expression, "engaged in the practice of dentistry," is capable of great latitude of interpretation; many a young lawyer and doctor are said to be in practice when they have simply put out a sign, and have never had a case. What is to hinder a man from making claim, on the same ground, to being in dental prac-

tice. Or, indeed, since the interval between special acts of practice may be quite indefinite, how can any one who has ever pulled a tooth be refused registration if he apply for it? When registration was begun in England, the term, "*bona fide practice*," was used, but even this was found to be too vague to serve as a satisfactory criterion.

We have heard the opinion expressed by men prominent in this speciality, that they would gladly see a registration bill which should apply to dentistry as a branch of general medicine, but that it was illogical to apply a supervision to the special branch, which was denied to the wider and more important whole to which the part belonged. Indeed, this argument was the strongest one that was urged against the measure in the debate in the Legislature, although it is true that the bill implies a distinct recognition of the relation of dentistry to general medicine in the provision that graduates in medicine are, *ex facto*, authorized to practice the speciality.

Whether the now accomplished registration laws for pharmacy and dentistry shall pave the way to a general medical registration, is a question that time alone can solve. But when the public comes to recognize the fact that the medical profession has no interest in such a measure comparable with the interest of the public itself in its own protection, it may arrive at the conclusion that it is as important to have a guarantee of the competence of the surgeon who operates on any other organ, as of him who operates on the teeth; and that it is a very partial protection to life to scrutinize the dispenser of drugs, while no guarantee whatever is required that the person who directs what shall be dispensed knows anything about the nature of the drugs he prescribes, or the diseases he assumes to treat.

When our legislators, having fortified the public against these minor dangers, shall address themselves to the more imminent one, they will find the members of the medical profession, like other good citizens, ready to approve their action; but there is no reason to believe that the great body of self-respecting physicians will ever take the initiative in a step where their motives are so liable to misinterpretation by the ignorant and the vicious.

#### THE BENEFITS OF A MEDICAL EDUCATION.

THE season of commencements is near at hand, in fact, has begun in some of the medical schools, and the diploma mills are under full blast. Soon the newly constituted doctors and doctresses of medicine, with the long-coveted and sometimes hard earned parchment, will press into the serried ranks of the profession.

We are not of the number of those who have nought but discouraging words for students of both sexes who, at the numerous medical schools throughout this great country are grappling with the difficul-

ties of medical study. With large numbers, the choice of this, in preference to every other learned profession, was a deliberate one — it was the expression of a conviction that the physician's is the most noble, liberal and beneficent calling. We do not, moreover, lose sight of the fact that many enter our medical colleges for the discipline and for the knowledge obtained through a thorough study of medicine in its collateral as well as in its essential branches. This discipline and this knowledge are of the utmost practical value. The fact is now recognized that a medical education is both a scientific and a liberal education. Without something more than a superficial knowledge of those primary branches which underlie what is known as the study of medicine, we do not believe that anybody at the present day, can be said to be liberally educated.

There is then a point of view from which we would say that the greater the number who (with ability to master it), enter on the study of medicine, the better. We would fain see society educated up to the plane of the average physician. It would not be the millennium, but it would be a great progress.

But it is another thing when medicine is studied as a means of earning a livelihood, and not cultivated, like virtue, for its own sake. It has been again and again said that ours is a crowded profession, and there are nowhere any good "openings." The newly equipped graduate who would win his bread and butter from the "practice of physic," must to a large extent obtain patronage to the detriment of his fellow laborers in the profession.

It is still the struggle for existence, in which the law of survival of the fittest has a general applicability. Many must be content with comparative poverty, while others will seem to their grudging conferees always to have more than their share. But these inequalities are inevitable to the human lot, and not even the advantages of superior attainments will always secure to the eager aspirant the "lion's share," if his competitor has more brazen assurance, and a more winning way with the public.

But the country is vast, population is ever on the increase, and multitudes of physicians are needed; the ranks of the profession are constantly being thinned by death and by other causes, and every medical student has a right to feel that somewhere there will be room for him where he will be welcome.

And, at any rate, he should rest assured that the culture and training which he is acquiring is its own reward. He may be compelled to ask his support of a community which encourages quackery more than it encourages science, and is more impressed by a fine equipage and all that, than by brains and talent, a community that fosters superstitions like hot-house plants; but he who has gone deeply into the science, discipline, and lore of medicine, will feel that he has found the only corrective and antidote to much of the nonsense that is rife; he will have the satisfaction of knowing that he has attained to a higher level, and this is no mean satisfaction.

## GAS AND KEROSENE STOVES FOR HEATING APARTMENTS.

WE publish in another column a letter from a careful observer in regard to the heating of apartments by gas and kerosene stoves, which is a matter of no little importance.

Gas and kerosene stoves are used to a considerable extent for cooking and also for the heating of small apartments. For the former purpose they are mainly used in summer, in sea-shore cottages and private residences and at a time when windows are open and free ventilation is secured; for the latter purpose they are used in cold weather, most commonly in small rooms with little or no ventilation.

One gas stove consumes more oxygen than a dozen men. These stoves are made both with and without stove-pipes for connection with a chimney, and they can be used in rooms having no connection with a chimney. Their effect upon the air is bad enough in either case, and in the latter positively dangerous.

A certain firm in one of our cities, advertising such stoves, states as one of their advantages, that they can be used either with or without the stove-pipe connection. To us, the possibility of using such stoves without the stove-pipe connection, should be reason enough for condemning them.

## MEDICAL NOTES.

— Professor Swiefl, of Erlangen, has received a call to Leipsic, and Dr. Mikulicz, of Cracow, to Koenigsberg, in Prussia.

— The late ceremonies in celebration of the nineteenth birthday of Kaiser Wilhelm have not failed to redound to the glory of his physicians, to whom the public is ready to ascribe much of the credit of the patient's advanced age and robustness. The Court Journal gives a picturesque account of the physician always on duty in the room of the Emperor. The latter suffers from a weak heart, the inaction of which causes his frequent falls. This physician, we are told, while the Kaiser sleeps, keeps his fingers on the pulse, and when he perceives any indication of greater weakness, wakes the Emperor and administers strong stimulants. The picture should offer suggestions to the cartoonist.

— A newspaper dramatic critic remarking upon the expressions to be heard among a dispersing audience, after a performance of *Frou Frou* by Mme. Bernhardt; "How realistic her death scene!" and struck by the fact that probably scarcely any of the audience knew what they were talking about, asked an old physician whom he met in the lobby what he thought of it. The latter replied: "Well, it was effective. Is n't that quite sufficient? I never saw anybody die that way; but I presume Mme. Bernhardt may have. I don't believe, however, that our great actors and actresses study models of expiring people in the hospitals, as they are said to in popular legends. No two persons

die alike any more than they live alike, and if Mme. Bernhardt were to endeavor to be realistic rather than artistic, my impression is that the spectators would say that she did not know how to die correctly."

BOSTON.

— The Faculty of Harvard College has promulgated the extraordinary rule that in all cases in which the college has heretofore required a physician's certificate to the fact of illness of absent students, such certificates must specify the *cause* of illness in order that the faculty may be able to judge of the validity of the excuse for absence! The faculty may not be aware that a similar attempt to require information as to the cause of illness of government employes at Washington, was, as we informed our readers last January, resisted by one of the most prominent practitioners of that city and that his refusal to comply was supported by the head of the department, Secretary Bayard. The faculty makes the double mistake of requiring the physician to betray his professional confidences and of assuming a power of supervision over a medical opinion as to the severity of the disease, or the requirements for its treatment.

— On the arrival of the Steamship *Kansas*, from Liverpool, at East Boston, last week, two stowaways were found, who with less wisdom than is usually shown by their kind, had hidden themselves in the lower hold whence the hatches prevented them from escaping, as they hoped to do the first day out. They took no food on board with them, and consequently got nothing whatever to eat during the thirteen days of the ship's passage, except a little water which trickled down the inside of the iron ship. They made vain attempts to kill the rats which they could hear about them, but which in the utter darkness they failed to do. The lads, who were eighteen or nineteen years old, were in a state of extreme inanition when discovered, but with care rallied again.

— A complimentary banquet was given to Mr. Theodore Metcalf at the Revere House, Tuesday evening, March 29th, by the Boston Druggists' Association in commemoration of his completion of a half-century of an active business career as a Boston Druggist. Speeches were made by Dr. Oliver Wendell Holmes, William Warren, Mayor O'Brien and others.

NEW YORK.

— The coffee-booths erected by the ladies of St. Luke's Church, of Brooklyn, which have been doing a very good work during the past winter, have now been closed for the season. The receipts, which were \$65.77 less than the expenses, amounted to \$1,467.50, and there were 104,033 meals served at a cost of one cent each.

— There is said to have been quite a large amount of illness during the winter among those occupying quarters in the Capitol building at Albany, from the Governor down; and it certainly seems strange that the Legislature, which is generally supposed to look pretty sharply after its own interests, has not long

since taken efficient measures to secure a satisfactory sanitary condition of the premises. It will, perhaps, be remembered that a year ago, on account of the numerous complaints that reached them, the State Board of Health directed its consulting engineer, Prof. James T. Gardner, to make a thorough investigation of the buildings, and that he afterwards prepared a very elaborate report setting forth the existing defects and the measures which he thought necessary to remedy them. But, notwithstanding the fact that this was published in the form of a very readable pamphlet, showing how even Senators and Assemblymen do not escape the bad effects of sewage-contaminated air and poor ventilation, the Legislature has never taken any action in regard to the matter.

### Miscellany.

#### THE MEDICAL NEWS ON THE HOLYOKE SMALL-POX CASES.

THE *Medical News*, March 19, 1887, says, in its editorial columns: "Dr. Abbott, of the Massachusetts Board of Health, reports the results of his investigation into the origin of recent cases of small-pox among the workers at the paper-mills at Holyoke. He traces the cases to imported linen rags that had passed through the New York Custom House, and were marked 'disinfected.' This fact may be expected to arouse attention to the present system of treating foreign rags, and to reopen the discussion of their fumigation at the seaports, which, last year, gave the Treasury Department so much trouble."

We fear some one has been trifling with the *Medical News*, the only correct statement in the above being the one that Dr. Abbott "reported the results of his investigation;" and "this fact" not being a fact at all, we need not expect attention to be aroused, etc. The Patent Disinfecting Company dies very hard. An accurate statement of the results of the investigation of the Holyoke small-pox cases may be found on page 243 of this JOURNAL, March 10th, to which may be added the statement: The two girls who were attacked worked in a room directly over the duster in which both domestic and foreign rags were dusted.

#### THE MEDICO-LEGAL ASPECTS OF SKIN-GRAFTING.

A SUIT has lately been before the courts of Atlanta, Ga., in which, however, it may have been based on private and personal grounds, rested ostensibly on the claim for damages done by a physician in taking from a boy, with the latter's consent, pieces of skin from the arm for grafting. The facts as given by the *Atlanta Medical and Surgical Journal*, are as follows:

"On August 30, 1886, in the presence of Drs. Hardon, Westmoreland and Howell, Dr. Henry Wile, of this city, proposed to a boy of thirteen years to submit to the removal of some small skin-grafts from his arm to be placed upon an extensive ulcerated surface on the head of his cousin, a little girl somewhat younger, whom he had accompanied to the office.

The boy readily consented, and minute grafts were excised without causing him any inconvenience.

"In the afternoon of the same day, the father of the boy went to the office and charged Dr. Wile with having cut 'his son's arm to pieces.' He subsequently swore out a warrant charging him with assault and battery; whereupon Dr. Wile waived examination and gave bond in the sum of two hundred dollars for his appearance at the City Court.

"The trial was before Judge Van Epps, without a jury, and after reviewing the facts as above given, the Judge stated that the boy had more than ordinary intelligence and discretion, and that a child of his age, under such circumstances of intellectual development, could commit crime and be punished according to law. He considered, therefore, that he had a right to give his consent, so that no crime was committed, and the case was dismissed."

#### ON THE TREATMENT OF NERVOUS HEADACHE.

"AFTER a number of trials," says Professor Arnold,<sup>1</sup> of Baltimore, "with various remedies which stand in repute for the relief of nervous headache, I give now the preference in the neurasthenic variety to a combination of ether and tincture of cannabis indica, in doses of twenty drops of the former and ten of the latter. Sometimes these remedies act better after a good night's rest has been obtained from a full dose of chloral."

#### THE PEABODY IMPROVED DWELLINGS TRUST OF LONDON.

THE compatriots of the distinguished philanthropist whose good works live after him in so many different quarters of the globe, cannot fail to be interested in the effort which he made to secure more sanitary dwellings for the poor of London. The twenty-second annual report of the trustees of the Peabody Donation Fund, as reviewed by the *Lancet* is satisfactory, whether viewed from a financial, social, or sanitary point of view. The half million of money given and bequeathed by Mr. Peabody between the years 1862 and 1873 has by the accumulation of rent and interest very nearly doubled itself, for on December 31st last it amounted to £910,668. That the object of the donor has been faithfully carried out is evident from the fact that by the end of last year the trustees had "provided for the artisan and laboring poor of London" 11,150 rooms, without counting bath-rooms, laundries, and washhouses, and that these rooms were occupied by a population of 20,228 persons; this shows an increase of 12,431 upon the number in residence at the end of 1876, ten years before. The various buildings contained 5,014 separate tenements, including 74 of 4 rooms, 1,782 of three rooms, 2,350 of two rooms, and 808 of single rooms; the average rent of each tenement being rather more than 4s. 9d., and of each room rather less than 2s. 2d. It is stated that the average weekly earnings of the head of each family in residence at the close of the year was rather less than 23s. 10d. The report contains the usual figures bearing upon the vital statistics for last year of the population of more than twenty thousand persons inhabiting those buildings. The birth-rate was

<sup>1</sup> Medical and Surgical Reporter, February 28, 1887.

equal to 42.4 per 1,000, exceeding by 10 the mean rate for the whole of London. This high birth-rate is evidence of the abnormal age constitution of the population, which contains an exceptionally large proportion of young adults, and consequently of children, and necessarily a very small proportion of elderly persons. The death-rate among this population including, as is stated in the report, the deaths of those residents who were removed to hospitals, was equal to 19.3 per 1,000, which is 0.6 below the mean rate for the whole of London. Bearing in mind that this population belongs exclusively to the working classes, and further that its exceptionally large proportion of young children more than counterbalances the effect of its small proportion of elderly persons, this death-rate may be taken to afford evidence of the sanitary condition of the residential population of these buildings. It is especially satisfactory to learn that in this working class population housed in improved dwellings, the rate of infant mortality in 1886 did not record 149 per 1000 registered births against 958, the mean rate in the whole of London.

#### INDICATIONS FOR THE USE OF NITRO-GLYCERINE.

DR. TRUSSEWITSCH, in an instructive paper on the use of nitro-glycerine published in the *St. Petersburger Medicinische Wochenschrift*, and reproduced in summary in the *Lancet*, February 19th, points out that the value of this drug in various affections—angina pectoris, migraine, and neuralgia (which he describes as angioneuroses), as also in sea-sickness, some forms of anemia, faintness, palpitation, and other diseases—depends upon the existence of an irregular distribution of blood, which condition may be inferred from a certain degree of pallor of the skin, especially of the face, often coexistent with a weak pulse and a small rigid radial artery, which frequently is situated at some depth. When on the other hand, headache and neuralgia occur in patients with chronic congestion of the subcutaneous veins of the face, nitro-glycerine is to be avoided; and similarly it is of no use in asthma, when the face is reddened in consequence of emphysema. If, however, a pale face exists with angina pectoris, migraine, giddiness, shock, toothache, or sea-sickness, the best results may be looked for by giving nitro-glycerine. The regulating effect of the drug exercises an influence over the congestion of internal organs similar to that brought about by bloodletting; and in these congestions, whether of lung, brain, or kidney, when they are of a temporary character, the pulse is generally found to be slow and of low tension—a fact which, as the author remarks, is sufficiently well known in reference to the fever-free periods of acute hyperemia of the lung and kidney. Dr. Trussewitsch lays down as a rule that the condition of the pulse is the best indication for the employment of nitro-glycerine, and the most trustworthy guide as to the dose with which to commence the treatment. The smaller the radial artery is, the more rapidly it dilates under the action of the drug, and the less the secondary effects produced; on the other hand, the fuller the pulse with a distended radial artery, the less it is affected; and finally, the softer the artery, with a weak pulse, the greater the secondary, and the less the general effects. Single-drop doses of the 1

per cent. solution are sufficient in cases of small pulse, but with a full pulse it will be found that the full effects cannot be produced with less than two drop doses. When there is a soft artery with a weak pulse, subnormal doses only should be given—a quarter to half a drop. After the trial dose is given, the patient's sensations of pulsation and pain in the head, as well as the distension of the radial artery under the finger of the physician, will be the guides for increasing the dose. The author finds that the best modes of administering nitro-glycerine are the simple dropping of the solution on the tongue, and by means of tablets; much less satisfactory results were obtained when given mixed with water.

#### Correspondence.

##### FLOATING KIDNEY.

HARVARD MEDICAL SCHOOL, March 27, 1887.

MR. EDITOR,—At the close of his exceedingly interesting paper in your last number, on what proved to be a floating kidney, Dr. F. C. Shattuck asks, when did his patient's kidney first become movable. He points out that it could not have acquired a mesentery (more properly a meso-nephron) suddenly, and that the symptoms were first noticed when the young man was only eighteen.

It seems to me that there is a radical defect in the classification of floating kidneys, which should be divided into those with a meso-nephron, presumably congenital; and into those without one, presumably acquired. The presence of a meso-nephron is decidedly rare. The usual story is that through a strain, tight lacing, or the absorption of the fat around the kidney, that organ becomes loose and slides about behind the peritoneum without acquiring a meso-nephron. I presume it is possible, especially if the kidney is enlarged by a morbid growth, that one should be formed. It is a pity that in the report of the autopsy there is no mention of the origin of the renal artery, for if it came from some unusual source, this, in conjunction with the presence of the meso-nephron and the youth of the patient, would make it almost certain that the abnormality was congenital.

I find in my notes a brief account of a case which I saw in the dissecting room at Bowdoin College in 1873. The left kidney lay in the pelvis. The main artery came from the left common iliac, another came apparently from one of the mesenteric vessels, but as the specimen had suffered at the hands of the students before I saw it, I did not succeed in tracing it. There was a regular meso-nephron, but I was told that when found the kidney was not movable. I suppose there were peritoneal adhesions that fixed it. In this case the peculiarity was undoubtedly congenital. It is interesting as showing, if the statement made to me was correct, that a floating kidney may become a fixed one. Possibly the adhesions may have occurred very early. Very truly yours,

THOMAS DWIGHT, M.D.

#### A PROPOSITION TO TRANSLATE AND PUBLISH THE MEDICINE AND HYGIENE OF THE TALMUD.

DAYTON, OHIO, 110 East 2d Street, March, 1887.

TO THE MEDICAL PROFESSION,—Ever since the publication of my address on "Jewish Hygiene and Diet, the Talmud, and various other Jewish Writings, heretofore Untranslated," delivered before the American Medical Association in 1884, at Washington, D. C., I have constantly been urged by the profession to translate and publish the Medical and Hygienical portion of this "wonderful" com-

pilation, the Talmud. I therefore beg to state to the profession at large, that I have concluded to translate and publish from the Talmud everything relating to medicine, provided, that prior to the undertaking I can receive one thousand subscribers for the book, and such subscription may be addressed to me in the following words:

I, the undersigned, agree to take one (or more) copy of the Talmudic Medicine of Dr. von Klein, which shall not exceed \$5.00 in cost for five hundred octavo pages, or at \$1.00 per each hundred pages, payable at delivery.

Under no other circumstances will I ever undertake this labor, which must be traced from hundreds of thousands of copies, and which has heretofore not been accomplished by any living man. No more copies will be printed than the number subscribed for, and fifty extra copies for distribution to the principal medical journals for review.

CARL H. VON KLEIN.

#### APARTMENT-HEATING BY GAS AND KEROSENE STOVES.

SAVANNAH, March 17, 1887.

MR. EDITOR.—Gas stoves, and kerosene stoves, when used to cook light meals, are to some extent a nuisance—more especially to one's neighbors—but may readily be tolerated. When used to furnish a permanent supply of heat, they can rarely be sanctioned. I should like to mention a little experience of my own, in Savannah, where this method of heating offices is becoming popular.

Occupying, for a part of the day, a small room, containing 1,100 cubic feet of air, I introduced a small kerosene stove for warmth. The heat yielded was sufficient to raise

the temperature of the room about eighteen degrees, which served my purpose sufficiently well. I had to stand some odor; but otherwise, I did not experience any personal discomfort from the peculiar atmosphere. One evening, however, I saw that the reading-lamp was dim; the flame had shrunk to one-half of its usual size; thinking that the housekeeper had neglected it, I carried it into the entry, but was surprised to find it burning brightly. Placed in the room, it again burnt low; opening the window relieved the difficulty. The same thing occurred on another evening, when, having with me Wolpert's air-testing apparatus,<sup>1</sup> I found that the amount of carbonic acid in the air had reached sixty-seven parts per ten thousand, the normal amount being three or four parts.

This numerical statement is only a fair approximation to the truth; but may be regarded as near enough to be of practical importance. It is not at all surprising that such an effect is produced by a pair of burners, each four inches long, generating as much CO<sub>2</sub> as eight or ten common lamps. In a well-built house with tight doors the effect might be doubled.

I have in mind the case of an elderly Boston school-teacher, whose health has been gradually declining under the combined influence of school-room air, protracted colds, and a kerosene stove in her sitting-room. The products of combustion besides CO<sub>2</sub>, may or may not have an injurious effect, but the enormous waste of oxygen, by itself, must have its effect on health.

It may be that the public need some warning upon this point, which your JOURNAL is in a position to give.

Respectfully yours, D. F. LINCOLN, M.D.

<sup>1</sup> Described by Dr. S. W. Abbott in the Medical and Surgical Journal, August 17, 1886.

#### REPORTED MORTALITY FOR THE WEEK ENDING MARCH 18, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Croup.	Measles.
New York . . . . .	1,481,920	734	291	19.46	19.46	2.94	8.36	3.08
Philadelphia . . . . .	965,961	—	—	—	—	—	—	—
Brooklyn . . . . .	745,108	290	112	12.24	18.70	.68	7.14	1.56
Chicago . . . . .	745,108	—	—	—	—	—	—	—
St. Louis . . . . .	420,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	140	48	12.07	9.94	.71	2.94	1.42
Boston . . . . .	400,000	133	49	9.18	11.56	1.36	2.70	1.62
New Orleans . . . . .	242,750	85	29	8.26	—	3.54	2.36	1.18
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
District of Columbia . . . . .	210,000	70	23	4.29	—	—	—	—
Pittsburgh . . . . .	210,000	97	43	13.30	10.31	2.06	6.18	—
Montreal . . . . .	210,000	—	—	—	—	—	—	—
Milwaukee . . . . .	170,000	65	25	6.16	13.86	—	30.8	—
Providence . . . . .	121,000	90	20	20.28	25.38	1.69	1.69	11.83
Richmond . . . . .	100,000	27	3	11.11	3.71	7.42	3.71	—
New Haven . . . . .	80,000	32	4	15.66	28.17	—	—	—
Nashville . . . . .	65,000	—	—	—	—	—	—	—
Charleston . . . . .	60,145	28	9	7.14	11.71	—	—	3.57
Portland . . . . .	60,000	18	4	11.11	—	—	—	—
Worcester . . . . .	68,383	26	10	15.40	11.58	—	11.58	—
Lowell . . . . .	64,051	34	15	26.46	12.70	2.94	—	11.70
Cambridge . . . . .	50,600	20	2	5.00	35.00	5.00	—	—
Fall River . . . . .	55,853	17	8	14.80	—	7.40	—	—
Lynn . . . . .	45,851	17	4	5.88	5.88	—	—	—
Lawrence . . . . .	38,825	24	2	7.14	—	—	—	—
Springfield . . . . .	37,577	17	5	18.04	18.04	—	5.88	—
New Bedford . . . . .	33,368	18	5	11.11	22.22	—	—	—
Somerville . . . . .	28,962	7	1	14.28	71.40	—	—	—
Salem . . . . .	28,084	13	4	—	—	—	—	—
Holyoke . . . . .	27,894	7	5	28.46	14.28	—	—	14.28
Chelsea . . . . .	25,709	10	2	—	20.00	—	—	—
Taunton . . . . .	23,674	6	0	—	20.00	—	—	—
Haverhill . . . . .	21,796	5	1	—	—	—	—	—
Gloucester . . . . .	21,713	10	3	10.00	40.00	—	10.00	—
Brookton . . . . .	20,783	5	1	20.00	20.00	—	—	—
Newton . . . . .	19,789	9	2	—	22.22	—	—	—
Malden . . . . .	16,407	10	2	—	20.00	—	—	—
Fitchburg . . . . .	15,375	10	1	—	10.00	—	—	—
Waltham . . . . .	14,829	4	2	—	50.00	—	—	—
Newburyport . . . . .	13,718	10	1	—	—	—	—	—
Northampton . . . . .	12,826	7	1	—	14.28	—	—	—

Deaths reported 2,027: under five years of age 738; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 225, acute lung diseases 333, consumption 320, diphtheria and croup 106, measles 53, diarrhoeal diseases 31, typhoid fever 24, scarlet fever 22, cerebro-spinal meningitis 14, malarial fevers 14, whooping-cough 11, erysipelas seven, puerperal fever six, small-pox two. From typhoid fever, Baltimore four, Pittsburgh and New York three each, Boston, Portland and Lowell two each, Brooklyn, New Haven, Charleston, Fall River, Lynn, Lawrence, Springfield, New Bedford and Brockton one each. From cerebro-spinal meningitis, New Haven four, Boston, Baltimore, Pittsburgh, Milwaukee, Worcester, Lowell, Fall River, Springfield, Somerville and Holyoke one each. From scarlet fever, New York 13, Boston, Baltimore and Providence two each, Brooklyn, District of Columbia and Lowell one each. From malarial fever, New York 10, Baltimore two, Brooklyn and New Orleans one each. From whooping-cough, New York five, Brooklyn two, Boston, Baltimore, District of Columbia and Milwaukee one each. From erysipelas, New York four, Brooklyn two, Providence one. From puerperal fever, Brooklyn, Boston, District of Columbia, Pittsburgh, Providence and New Bedford

one each. From small pox, New York and Brooklyn one each.

In the 23 cities and greater towns of Massachusetts, with a population of 1,086,673 (population of the State 1,941,462) the total death-rate for the week was 22.68 against 20.27 and 18.55 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,000, for the week ending March 5th, the death-rate was 31.3. Deaths reported 3,776: infants under one year of age 805; acute diseases of the respiratory organs (London) 459; measles 152, whooping-cough 93, scarlet fever 41, diarrhoeal diseases 34, diphtheria 31, fever 31, small-pox (Manchester) three.

The death-rates ranged from 11.6 in Bolton to 31.2 in Manchester; Birmingham 22.6; Bradford 22.3; Halifax 19.8; Hull 21.7; Leeds 21.3; Leicester 19.0; Liverpool 23.5; London 20.2; Newcastle-on-Tyne 24.9; Nottingham 17.5; Sheffield 19.8; Sunderland 15.3.

In Edinburgh 22.2; Glasgow 25.7; Dublin 28.1.

The meteorological record for the week ending March 19, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.		Relative Humidity.				Direction of Wind.		Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration of Rain.	Amount in Inches.
Saturday, Mar. 19, 1887.																
Sunday, ...13	29.735	38.6	44.0	32.0	71.0	50.0	68.0	63.0	N.	E.	W.	10	5	9	O.	—
Monday, ...14	29.837	38.0	39.0	31.0	71.0	43.0	59.0	56.0	N.W.	W.	N.W.	10	14	26	C.	—
Tuesday, ...15	29.429	28.0	34.0	18.0	72.0	48.0	63.0	61.0	N.W.	N.W.	N.W.	18	22	18	N.	—
Wednesday, ...16	29.349	29.0	36.0	21.0	64.0	43.0	72.0	60.0	N.W.	W.	N.W.	18	10	13	O.	—
Thursday, ...17	29.286	33.0	42.0	25.0	67.0	49.0	72.0	63.0	N.W.	W.	N.W.	11	11	11	O.	—
Friday, ...18	29.391	38.0	44.0	29.0	85.0	65.0	89.0	81.0	N.W.	N.W.	N.W.	13	11	11	N.	—
Saturday, ...19	29.551	37.0	44.0	34.0	89.0	88.0	97.0	91.0	N.	E.	N.	10	8	11	O.	—
Mean, the Week.	29.464	34.0	42.0	27.0			68.0									

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; N, snow; Sl, Sleet.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 19, 1887, TO MARCH 25, 1887.

GRAY, WM. W., captain and assistant surgeon. Leave of absence further extended two months. S. O. 62, A. G. O., March 17, 1887.

EDIE, GUY L., first lieutenant and assistant surgeon. Leave of absence extended three months. S. O. 67, A. G. O., March 23, 1887.

FOINDETER, JEFFERSON D., first lieutenant and assistant surgeon, (recently appointed). Ordered for temporary duty at United States Military Academy, West Point, N. Y., relieving Captain Richard W. Johnson, assistant surgeon, who will return to his proper station (Fort Adams, R. I.) S. O. 62, A. G. O., March 17, 1887.

REYNOLDS, FRANK, captain and assistant surgeon (retired). Died March 3, 1887, at Oakland, Cal.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MARCH 26, 1887.

CORDERO, F. J. B., assistant surgeon. Detached from the Navy Yard, Boston, and placed on waiting orders.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING MARCH 26, 1887.

BAILLACHE, B. H., surgeon. To proceed to Mobile, Ala., Pensacola, Fla., Ship Island, Miss., and New Orleans, La., as inspector, March 14, 1887.

LONG, W. H., surgeon. Granted leave of absence for seven days, March 16, 1887.

GOLDSBOROUGH, C. B., surgeon. Granted leave of absence for thirty days, March 14, 1887.

DEVAN, S. C., passed assistant surgeon. To proceed to Tacoma, W. T., as inspector, March 19, 1887.

LONG, W. H., Surgeon. Leave of absence extended five days, March 23, 1887.

URQUHART, F. M., passed assistant surgeon. Relieved from duty at Norfolk, Va., ordered to Washington, D. C., special duty, March 22, 1887.

PETTUS, W. J., assistant surgeon. When relieved by passed assistant surgeon Gutiérrez to remain Charleston, S. C., waiting orders, March 24, 1887.

#### SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.—There will be a meeting of this Section at 19 Boylston Place, on Wednesday evening, April 6th, at 8 o'clock. Dr. J. Leslie Foley will read a paper on the "Morbid Changes and Surgery of the Nails." Dr. H. L. Burrell will give a *résumé* of "Four Months Experience in Minor Surgery at the Boston City Hospital." G. H. MONKS, M.D., Secretary.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—The annual meeting of the Boston Society for Medical Observation will be held at the Medical Library, 19 Boylston Place, on Monday evening, April 4, 1887, at 8 o'clock. Readers: Dr. M. H. Richardson, "A Series of Abdominal Cases." Dr. T. F. Sherman, "Pleurisy with Effusion." At 9 o'clock, election of new members; election of officers for the ensuing year.

CHARLES P. STROB, M.D., Secretary.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.—THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, April 13th, at 7.45 o'clock. Papers: Dr. Henry Jackson, "A Case of Acute Infectious Universal Myositis." Dr. R. H. Fitz will open the discussion. Dr. F. C. Shattuck, "Four Hospital Cases. (1) Tetany; (2) Hemophilia; (3) Cirrhosis of the Liver; (4) Peritonitis, with Perforation of the Abdominal Wall." Dr. F. Minot will open the discussion. Dr. C. F. Folsom, "Two Cases, Multiple Neuritis (idiopathic), Multiple Neuritis (alcoholic)." Drs. S. G. Webster and J. J. Putnam will open the discussion.

F. I. KNIGHT, M.D., Chairman.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—THE ANNUAL Meeting of this Association will open in New York on the second Wednesday in August (the tenth).

## Nature.

### ON THE PHYSIOLOGY OF EXERCISE.<sup>1</sup>

BY EDWARD MURSEY HARTWELL, PH.D., M.D.,  
Associate in Physical Training, in the Johns Hopkins University, Baltimore.

ENOUGH has been said, I think, to show that muscular exercise exerts a potent and important influence upon the growth of the body, and upon the elaboration and perfecting of its more familiar systems of organs; but, thus far, its most important effect, that upon the nerves and brain, has been only alluded to. The nervous element involved in muscular exercise is oftener overlooked than recognized by the mass of writers on the subject. Maclaren, whose book on "Training in Theory and Practice" is the best of its class in English, defines exercise as "muscular movement" simply, and declares its object to be "the destruction and renovation of tissue." This is the ordinary view, from which you will find but little deviation in the vast majority of the text-books on physiology, and of the books and articles on exercise, whether they have been written for school-girls or medical students.

I would not have you take this for my individual doctrine, though the statement expresses the result of my inquiry and reading. "We seek in vain in most physiological text-books," says Du Bois-Reymond, "for instruction respecting exercise; if it is given, only the so-called bodily exercises are generally considered, and they are represented as merely exercises of the muscular system. Therefore, it is not strange that laymen in medicine, teachers of gymnastics, and school-teachers believe that. Yet it is easy to show the error of this view, and demonstrate that such bodily exercises as gymnastics, fencing, swimming, riding, dancing, and skating, are much more exercises of the central nervous system, of the brain and spinal marrow. It is true that their movements involve a certain degree of muscular power; but we can conceive of a man with muscles like those of the Farnesian Hercules, who would yet be incompetent to stand or walk, to say nothing of his executing more complicated movements."

The arm of the blacksmith has been so often brought into play by writers and talkers on exercise, that every school-boy credits the statement that muscles grow larger, harder, and stronger when duly exercised, and become weak, flabby, and wasted if they are suffered or forced to remain inactive. It is less obvious, though it can hardly be doubted, that use and disuse work similar effects in the case of nerve cells and fibres, both sensory and motor. There is abundant evidence, though much of it is of the negative sort, to show that exercise of the muscles not only reacts upon the nerves and centres with which they are connected, in such wise as to enhance the power and ease with which they originate and transmit stimuli, but that it also leads to an increase in the size, number, and elaboration of their parts. But this evidence is chiefly to be sought in the writings of those who have made the normal and diseased conditions of the nervous system their special field of study, since text-book makers and the writers of popular articles seldom make use of the material which has been accumulated by professional physiologists, and those who devote themselves to the

study and care of the idiotic, the paralyzed, and the insane.

The fact must never be lost sight of, that a single muscle is not a simple organ, but is made up of two clearly-distinguishable, though conjoined mechanisms: a contractile, executive mechanism, the muscle proper; and a stimulating, regulative mechanism, consisting of nerve-fibres and gray-matter nerve cells. Each mechanism has its bloodvessels for supplying food and drainage; and the amount of blood supplied to each is proportionate to its functional activity. If, in life, the two mechanisms become dissociated, or if either suffer from mal-nutrition, unregulated exercise, or structural depravity, the dual organ is thrown out of gear, and its working becomes disordered or abolished, in much the same way as when it is attempted to split a human being into a mental part and a bodily part, and to train the dis severed fractions to functionate as entities. Muscular movement is, then, a resultant effect, due to the balanced working of the conjoined mechanisms alluded to. The nervous mechanism is concerned in a somewhat higher kind of work than that of its muscular colleague, and may be said to represent the movements of which the latter is the seat and instrument. Between the nervous arrangement which represents the twitch of a single subcutaneous muscle inserted into the base of a hair-follicle, and that which represents and governs the varied and rapid muscular adjustments which characterize the hand and fingers of a cunning craftsman or artist, there exists every grade of complication.

If we compare an adult man and one of the highest of the lower animals, in respect to the movements of which they are capable, we find that they possess many in common, but that man is distinguished from the brute by certain movements, such as those involved in maintaining the erect posture, and in the action of the hands and vocal organs; and that, corresponding to these two classes of movements, there are two classes of nervous mechanisms, by means of which they are represented. These mechanisms have been well termed fundamental and accessory, respectively.

Similarly, it is demonstrable that, while the human infant and adult possess many nervous mechanisms identically alike in structure and function, the adult is characterized by certain other mechanisms, whose structural peculiarities, connections, and powers have been evolved and superadded, as the result of growth and training. The law of evolution, as applied to the nervous system, is now very generally recognized by neurologists. In Ross's "Diseases of the Nervous System," this law, which was originally enunciated by Herbert Spencer, is described as "a progressive integration, both of structure and function, during which there is a passage from the uniform to the multifiform, the simple to the complex, from the general to the special. The nervous system of man is, at first, similar to that possessed by all animals which possess a nervous system, or, at any rate, all those which are sufficiently elevated to possess a spinal cord; but, as development proceeds, the nervous system of man becomes gradually differentiated from that of an ever increasing number of the lower animals, while still maintaining a general likeness to the nervous system of the higher animals up to the time of birth. This, then, constitutes the fundamental portion of the nervous system of man; but after birth, the accessory portion, which, up till this time, only appears in a

<sup>1</sup> Concluded from page 302.

rudimentary condition, now undergoes progressive development. It will thus be seen that the fundamental portion is first developed, and that the super-addition of the accessory portion greatly increases the multifariousness, the complexity, and the speciality of the human nervous system, and that it is the latest product of its evolution."

As might be expected, the structural elements of the nervous system follow this law. The many-branched nerve cells, having a process prolonged to form the axis-cylinder of a nerve fibre, are the most highly organized and special of nerve cells, but they begin as small, round, uniform, unbranched cells. The medullated nerve fibre made up of axis-cylinder, sheath of white substance, and the outer investing membrane, is the highest form of nerve fibre. At the other end of the series stands the primitive nerve fibril, a bundle of which may be said to constitute an axis-cylinder. Among intermediate forms are axis-cylinders with no sheath whatever, axis-cylinders covered only by a sheath of white substance, and non-medullated fibres, consisting only of an axis-cylinder enclosed in a fine, thin, structureless sheath. At birth the fundamental portion of the nervous system of a human infant is characterized by the presence of branched cells and medullated fibres in contra-distinction from the rudimentary accessory portion which contains small round cells, primitive fibrils, and non-medullated fibres. Later, if all goes well, the round cells become branched, and the non-medullated fibres become medullated.

There are certain areas in the gray matter of the fore-brain of man whence proceed, it is now generally held, stimuli to the most important groups of voluntary muscles. In one of these regions are the centres which control the different groups of muscles of the upper extremity, and for the sake of simplicity we may consider that the centres of the muscles, which move the shoulder, elbow, wrist, and fingers lie near to and are connected with one another. The movements of the shoulder and elbow are fundamental and well-organized in the infant, as compared with those of the wrist and fingers which are accessory and later acquired. In order that the movements of the different segments of the fore-limb should be properly co-ordinated as to force, direction and degree, their motor centres must habitually discharge their stimuli in due sequence and degree. This comes only through practice. Experiments on young puppies show that their motor areas are not sufficiently developed until they are ten days old, for them to make voluntary movements with their limbs. Ferrier declares that "the degree of development and control which a puppy reaches in ten days or a fortnight, is not attained by the human infant under a year or more." The infant, through the growth and development of the appropriate accessory centres, first gains control over its foot and leg, then over its arm and hand, and later over tongue and lips. It is evident that the arms of a blacksmith, and those of a five-year-old boy, and of an infant, differ greatly as regards size, strength, and skill; but the differences which exist between them, reside in the nervous mechanisms which represent the movements of which their respective muscles are capable, rather than in the muscles themselves. Not only are the motor nerves of the blacksmith the largest, but the cells in his motor areas are also more numerous, larger, more branched and more widely connected with other cells. Exercise plays, if not

the predominant, at least a very considerable part in producing this result. The effects of exercise are at once seen, if one compares the right and left arms of the average blacksmith with one another. It is well-known that the centres which control the right hand are situated in the cortex or outer layer of gray matter of certain portions of the left fore-brain: and that those which control the left hand are in the right fore-brain. Flechsig, who has made exhaustive studies as to the course and number of the motor fibres which connect the muscles of the two extremities with their respective main centres, concludes that the number of fibres going to the right hand, is to the number of fibres going to the left hand, as three to two.

The mere disuse of a muscle causes it to diminish in size. This wasting is technically termed atrophy. The most extreme forms of muscular atrophy and paralysis, are due to diseased conditions which originate in nerve centres or nerve fibres, though to the uninstructed eye the muscles would appear to be the only organs affected. Lesions in the central nervous system may cause the bones to atrophy, as well as the muscles. The development of a group of muscles of an entire limb, or of one side of the body, may be arrested by reason of certain forms of central nervous disease which occur in infancy and childhood. Observations made upon the brains of persons born with an arm or hand lacking, taken in connection with observations made on the brains of those who have had a hand or arm amputated, go to prove that the suppression or considerable diminution of certain movements brings about a condition of atrophy or arrested development, as the case may be, in those centres which would normally represent such movements. One may attain to the stature and semblance of manhood, and yet, through the arrested development of certain of his motor centres, be nothing better than an infant or a mere animal, as regards his powers of action: while paralysis and atrophy may reduce a young age by stage, to the condition of an untrained child, or of a helpless idiot, or even to that of a living corpse.

The functional improvement of the nervous mechanism, which represents any movement, whether it be simple or complicated, automatic or voluntary, is the most important effect of muscular exercise. It is not altogether clear just how it comes about that through trial and repetition, an action which is at first a difficult feat, becomes a pleasurable accomplishment, then a routine performance, and at last an almost instinctive act. But there is a settled conviction, among those who know most about healthy and diseased nerves, that the frequent or habitual passage of stimuli from a given group of cells through definite fibres to the muscles, concerned in a given movement, leads to some kind of rearrangement of the molecules composing the irritable protoplasm of fibres and cells, so that less and less resistance is offered to the passage of subsequent impulses from the same source. Somehow or other the memory of past actions and the stimuli which evoked them becomes imbedded or organized in the motor centres. The principles of physical training, whatever its aim and end may be, are based upon the power of the nervous system to receive impressions and register them or their effects; or in other words, upon its ability to memorize the part it plays in acquired movements, and on occasion to recall and revive such movements. His once too vividly impressed sensory centres cause the burnt child to dread flame:

and the difficulty of interesting an old dog in new tricks, except so far as he delights to criticise and decry them, arises from the preoccupation of his centres by old impressions rather than from their increasing insusceptibility to fresh ones.

From careful studies made as to the character of the dreams of the blind, it appears that the memory of visual objects is not organized until between the fifth and seventh year of life. Persons born blind do not dream of objects in the outer world, and those who become blind, before attaining their fifth year, do not dream of objects seen by them before their loss of sight. They are blind-minded as well as blind-eyed as regards such objects. There are authentic cases recorded of persons whose memory of objects, seen before the access of their blindness, persisted for twenty, thirty, and even fifty years. Then the record of their visual impressions became effaced and they ceased to dream of objects in the outer world. The case of a man born without either hands or feet, is in point here. Although he had eyesight, he did not dream of executing hand or foot movements; yet he had sufficient use of his stumps to write what is termed a good hand. There was no record of hand or foot movements in the centres which ordinarily control such movements; so that he was unable to dream of movements which he had never executed. On the other hand, the instances are very numerous in which men, who, having lost a limb by amputation, could feel their fingers or toes while awake, and dream in sleep or when awake, of making complicated movements with their lost members. "Persons who have had an arm amputated," says Dr. Weir Mitchell, "are frequently able to will a movement of the hand, and apparently to execute it to a greater or less extent. A small number have entire and painless freedom as regards all parts of the hand." They must be blind-minded, indeed, who can deny in the face of such facts, that muscular exercise plays an important part in the development of brain power.

It is so difficult to find a true and succinct statement of the effects and value of exercise in its relation to the nervous system, that I cannot forbear quoting freely from a most admirable article by an eminent English authority, on insanity and kindred diseases, Dr. J. Crichton-Brown.

"The view hitherto taken of exercise in relation to education," he says, "has been far too narrow. The idea has been, and as far as it went, it was a correct idea, that exercise is useful in education, because it sustains and improves bodily health by expanding the lungs, quickening the circulation, shaking the viscera, and promoting growth in the muscles and bones. But we now know that besides doing all these things, exercise may be made to contribute to brain growth, and to the symmetrical development of the mental faculties. In all muscular movements there is action and reaction. When a movement is willed, a current is sent forth from the brain and the muscle contracts. But that is not all; the instant that the muscle contracts the sensory nerves take up the tale, and accurate reports are conveyed to the brain of all that is going on at the scene of action. Nerves distributed to the muscle itself, to the skin covering it, to the joint which it moves, carry back to the supreme centre precise information as to the effects of its mandate, and the information thus received is carefully registered for future guidance. For just as there is a memory of

sensory impressions, of the sights we have seen and the sounds we have heard, so is there a memory of motor acts, of the movements we have performed, and of the mode in which we accomplished them. Thus the muscles not only, by the locomotion which they render possible, enormously widen the field from which our sense-impressions are gathered, but also by the experiences which their own activities involve, expand our mental resources a thousand-fold. An analysis of our ideas at once reveals to us that we have few that are of purely sensory origin; our ideas of form are not mere revived optical impressions, which are properly limited to color, but ocular impressions combined with ideal ocular movements. Our idea of a circle is a combination of an ideal circular outline with an ideal circular sweep of the eyeballs, or it may be of the tactile impressions coinciding with an ideal circumduction of the arm or hand, or perhaps both these factors, combined. And so it is with our ideas of weight, distance, and resistance, which all involve sensory and motor factors, and to revive in memory any such ideas is to revive both the sensory and motor elements of their composition, and to repeat definitely in certain nerve centres the processes which correspond with certain motor acts.

"Now the centres of motor ideation require to be exercised in order that they may be properly developed, and may contribute usefully to mental processes; and hence muscular training is likely to assume a more important and precise place in our educational systems of the future than it has hitherto done.

"These facts, that cerebral centres never properly exercised do not develop, and that, when once developed, they are not so liable to waste on the withdrawal of their appropriate stimuli, or when they are cut off from their natural activities, strongly inculcate the importance of educating every centre at its nascent period, and the danger of postponing education till the nascent period is over. A large district of the brain is made up of motor centres, and is concerned in motor ideas. The growth of that district is evidently to some extent dependent on muscular exercise, and if that is withheld, at the growth-period, the development of that district is arrested. It is not only so, but that district is made up of a series of centres in relation with different groups of muscles, and each centre is dependent for its development upon the activity of its own group of muscles; and the defective exercise of any group of muscles during the growth-period of its own particular centre (the growth-periods in most of the motor centres having different starting points) will result in the dwarfing of that centre, and a corresponding hiatus or a general weakness must exist in the whole mental fabric.

"From this, we might deduce that swaddling bands so applied at birth as to restrain all muscular movements, and kept on during infancy and childhood, would result in idiocy—a speculation to which the wretched muscular development of most idiots and imbeciles, and the fact that their mental training is most successfully begun and carried on through muscular lessons, give some countenance. We should also have to infer that, in order to build up a sound and vigorous brain, we must insure free exercise to the different groups of muscles in the order of the development of their centres, and must in no degree interfere with the natural sequence of their evolution. That being so, we must necessarily ascertain what that

natural sequence is which is so important a guide to education, for, in our present ignorance of it, we may unwittingly be doing much mischief.

"Suppose that we are encroaching on the time at which hand-centres ought to receive their most valuable education — their nascent period — and are devoting that time to the cultivation of the tongue and lip centres, then we should be impairing the full development of the brain; for the hand-controlling centre, if not fully exercised at its nascent period, can never afterwards attain to the highest cunning. But it seems that not only tongue, but hand, and foot, and eye, and arm, and every muscle of the body, must be trained in due season, if education is to do what we expect of it, and result, not in headaches, and imbecilities, and nervousness, and insanity, but in well-balanced growth of body and mind.

"The differences which we notice between man and man in deportment, gait, and expression are but the outward and visible signs of individual variations in the development of the motor centres of the brain; and the stammerings, grimaces, twittings, and antics, which are so common and annoying alike to those who suffer and those who witness them, are probably, in many instances, the effects of neglected education of some of those centres, and might have been abolished by timely drill and discipline."

It must be evident, I think, that muscular exercise deserves more attention than is usually given it, and that, when properly chosen, regulated, and guided, it not only does a man good, but makes him better; at least, it may make him a better man, in many respects, than his father was, and enable him to transmit to his progeny a veritable aptitude for better thoughts and actions. Herein lies the power of the race for self-improvement, and the evolution of a higher type of man upon the earth.

"The body of the accomplished man becomes," says Bagehot in his "Physics and Politics," "by training, different from what it once was, and different from that of the rude man; it is charged with stored virtue and acquired faculty, which come away from it unceasingly. . . . The special laws of inheritance are, indeed, yet unknown. All which is clear is that there is a tendency, a probability, greater or less, according to circumstances, but always considerable, that the descendants of cultivated parents will have, by born nervous organization, a greater aptitude for cultivation than the descendants of such as are not cultivated, and that this tendency augments, in some enhanced ratio, for many generations.

"I do not think any who do not acquire this notion of a transmitted nerve-element will ever understand the connective tissue of civilization. We have here the continuous force which binds age to age, which enables each to begin with some improvement on the last, if the last did itself improve, which makes each civilization, not a set of detached dots, but a line of color, surely enhancing shade by shade. There is, by this doctrine, a physical cause of improvement from generation to generation, and no imagination which has apprehended it can forget it; but unless you appreciate that cause in its subtle materialism; unless you see it, as it were, playing upon the nerves of men, and, age after age, making nicer music from finer chords, you cannot comprehend the principle of inheritance, either in its mystery or its power.

"These principles are quite independent of any

theory as to the nature of matter or the nature of mind. They are as true upon the theory that mind acts on matter, although separate and altogether different from it, as upon the theory of Bishop Berkeley, that there is no matter, but only mind; or upon the contrary theory, that there is no mind, but only matter; or upon the yet subtler theory, now often held, that both mind and matter are different modifications of some one *tertium quid*, some hidden thing or force. All these theories admit, indeed they are but various theories to account for the fact, that what we call matter has consequences in what we call mind, and that what we call mind produces results in what we call matter; and the doctrines I quote assume only that. Our mind, in some strange way, acts on our nerves, and our nerves store up the consequences. Somehow the result, as a rule, and commonly enough, goes down to our descendants. These primitive facts all theories admit, and all of them labor to explain."

### Original Articles.

#### A FEW FRAGMENTARY REMARKS ON THE RADICAL RELIEF OF INFLESHED TOE-NAIL.<sup>1</sup>

BY R. E. COTTING, M.D.,  
Consulting Surgeon to the Boston City Hospital.

In January last I operated for radical relief of infleshed toe-nail, in the presence of several members of this Society.

The patient was a young woman, on whom I had performed the same operation on the other great toe, four years before. At that time, a brother, older than herself, received the same treatment for a like ailment. Indeed, some sixteen years ago, I performed four operations simultaneously (on the two sides of the two great toes) for the mother of these patients, making, in all, seven similar operations in the same family.

In each of these seven cases the result was successful in the fullest sense of the term. The ailment was completely eradicated, never to return. The nails were not injured in the process. They afterwards grew naturally, without pain or hindrance of any kind, soon acquiring normal usefulness. The toes, as usual after the peculiar method employed, were greatly improved in shape and general appearance. Walking also became easy and agreeable, in any kind of boot or shoe.

The method resorted to in all these cases was one devised by myself, more than forty years ago; and, although frequently followed by myself and others here and elsewhere, has never, to my knowledge, failed to effect a radical cure.<sup>2</sup>

<sup>1</sup> Read before the Roxbury Society for Medical Improvement, March 24, 1887.

<sup>2</sup> Singularly enough, as I was going to this meeting, with my report fully prepared, a friend showed me the New York Medical Journal for March 19, 1887, wherein Dr. R. F. Wier, of New York Hospital, in a report of four months' hospital work, three hundred and ninety-nine operations, including one for "ingrowing toe-nail," at page 319, says: "This operation of Cotting's (sic) often fails, and I have learned from my clinical assistant, Dr. Bartley, how to do it better than I did." From which it appears, not that Cotting's operation fails, but that Dr. Wier failed to do the operation. Of course, it should be properly performed, and by one who comprehends the scheme of it. How his "one case" resulted he does not say; presumably, however, from the contrast, in success. He calls it a "very small operation." Compared with his capital operations it may be, but it may be one of great importance, also, to a disabled patient wishing for the power of locomotion, and freedom from torturing pains. Moreover, there are scores of these patients to one requiring amputation at the hip-joint. On the other hand, Dr. Gay, of the

It is a very simple procedure: Etherize the patient, unless he object. Remove with the knife the diseased fleshy parts, together with a large and thick slice of the healthy and adjoining side of the toe, Figure 1, *a c*. Let the cut begin or go well back, as at *d e*, Figure 2,<sup>2</sup> and let it be guided by the edge of the nail, which should be exposed, but need not, nor its matrix,



be involved or injured thereby. Dress the wound with lint or absorbent cotton, firmly compressed upon it by a narrow roller-baudage, and cover the whole with a good-sized piece of oiled muslin or silk, neatly secured, in order to prevent any extra oozing of blood.<sup>3</sup>

This is the whole of it. The patient lies abed for a few days, or immediately sits up, or hobbles about, as he pleases, even going to his work at once, if necessary. From the moment of the operation there remains only a clean-cut wound, to heal as other wounds of like dimensions, with less pain or annoyance in it than previously in the disease; while such as there is, rapidly decreasing, soon departs altogether.

This operation, one of the simplest ever devised for this affection, differs from all the others in its fundamental principle and purpose, namely, the producing of a radical cure by *ciatricial contraction*, and that by means of a wound of sufficiently large extent, in healthy as well as diseased parts. For, as such a wound heals, the remnants of the lateral fleshy nail-furrow, if any remain, together with the soft parts adjoining, are drawn in by the contraction, and, in this manner, are kept away from the edge of the nail. Thus the nail thence after, in its ordinary growth, has nothing to imbed itself in, or even to impinge upon. A return of the affection is thus put entirely out of the question.

Such was the method pursued in the case now reported. Those present and assisting can bear witness to its simplicity and ease in performance, as well as to the complete success and radical cure, then shown to them, of the previous operation on the same patient.

Though a minor operation in surgery, one may deem himself fortunate if able to suggest an easy and radical remedy for an often-met affection so exquisitely painful and disabling as this frequently becomes, or so intractable as it has heretofore proved to be. To this end unnumbered attempts have been made, without satisfactory results. Beaudes states<sup>4</sup> that Velpeau counted up nearly a hundred such. "This large number," he says, "attests the importance of this little malady, and the difficulty of its cure." Velpeau himself always adhered to the evulsion of the nail, which procedure he greatly ameliorated.

Some, perhaps, may be still reluctant to give up the Boston City Hospital, who probably has performed this operation many more times than any other practitioner, in the "New Reference Handbook of Medical Sciences," Wood & Co., New York, 1887, Vol. IV, page 36, says: "Having performed this operation many times during the past eighteen years, I have never yet seen a case in which the result was not permanent and satisfactory."

<sup>2</sup>The wood-cuts have been kindly lent by their owner. See Boston Medical and Surgical Journal, May 8, 1879, page 261, where they illustrate a very good article on the subject of this paper.

<sup>3</sup>Finally the bleeding is readily controlled, during the operation and dressing, by an assistant holding the toe, and compressing the lateral arteries between his thumb and index finger. But in the case now reported, Dr. Garceau (in a procedure original with himself) skilfully wound the toe with small rubber tubing, Esomarch fashion, and thus rendered the operation absolutely bloodless till the dressings could be applied.

<sup>4</sup>Dictionnaire de Médecine, Vol. II, p. 552.

old ways, "barbarous methods" Dr. Gross called them, but evidences that our procedure meets with ever-increasing approval are continuously coming in; and, if it be the *good thing* we contend that it is, this may be a sufficient apology for often urging its general adoption, and for again bringing the subject before this Society.

### THREE CASES OF LABOR, TWO BEING BREECH AND THE OTHER ARM-PRESENTATION, WHERE THE LEGS WERE EXTENDED, AND THE FEET WERE NEAR THE FACE.<sup>1</sup>

BY DR. J. S. GREENE, OF DORCHESTER.

The cases which I am to report illustrate an infrequent form of dystocia, and one "little considered in our text-books."

**CASE I.** Mrs. A. B., a young, strongly-built French-Canadian, primipara, began labor in the afternoon of December 13, 1884, under the care of Dr. C. L. Edwards, of Hyde Park. Notwithstanding vigorous pains and a dilatable os uteri, labor did not advance into the second stage during the night; and Dr. Edwards, wishing a consultation, sent for me early in the forenoon of the next day. The os was then well dilated, and the liquor amnii had escaped.

The breech was presenting, and engaged at the pelvic brim, and the child was male. The position was left posterior, that is, the child's sacrum was towards the left sacro-iliac joint. It was decided to interfere in aid of delivery, and as no foot was within reach of fingers, the bladder was evacuated and full anaesthesia induced with ether. A pair of Simpson's forceps were then applied over the thighs, and attempts at combined traction and rotation were made, the forceps being disengaged and replaced two or three times. This proceeding was so far successful that the breech was brought well down into the pelvis, with the sacrum towards the left acetabulum. Further aid from the forceps seemed impracticable. The finger could now be hooked into the left groin, then into the right; but neither alternate nor combined traction by the fingers effected anything.

A blunt hook was next applied over the flexure of the left thigh, its tip guarded by a finger, and delivery of the lower part of the body thus, without great difficulty, accomplished. The legs were found to be extended upwards, towards the face, and were now easily liberated by successively flexing the knees. The cord pulsated feebly, and, for the safety of the child, no time was to be lost. The left arm had not rotated as had the body; and in carrying the shoulder forward, the better to flex the elbow, the left clavicle was fractured. The arms were successively delivered; but the head, now fully rotated, with the occiput under the pubis, it was impossible to disengage by any justifiable traction. Next, the body was flexed, and the forceps applied to the head from behind the child's back. The head was, by these means, speedily and safely delivered, with but slight laceration of the perineum. Suction at first seemed doubtful, but after active employment of the customary means for a few minutes, respiration was established. Delivery was completed about half-past ten in the forenoon, eighteen hours after the beginning of labor. The child, a large one, did well, and the mother made a good recovery.

<sup>1</sup>Read before the Section of Obstetrics and Gynecology of the Suffolk District Medical Society, January 19, 1887.

A month or two after this, I read in the *New York Medical Journal* for 1885, XLI, pages 177-181, the paper by Prof. William T. Lusk on the subject here considered. The substance of Dr. Lusk's paper has since been included in the latest edition of his book, "The Science and Art of Midwifery." Dr. Lusk's views, as here set down, sustain the course adopted in the foregoing case. He enforces caution in attempting to bring down a foot when the breech is fully engaged in the pelvis. He approves the use of forceps applied to the lateral surfaces of the thighs when the breech is transverse. Failing in this, he favors the fillet or the blunt hook. He recognizes the possible need of forceps to the after-coming head in case of unyielding perineum. In all these respects, his teaching leans towards opposite ground to that of Dr. Robert Barnes.<sup>2</sup>

On review of the case, I am not sure that any different mode of effecting delivery would have been more suitable, or have proved more satisfactory. Cephalic version was impracticable, for the breech was well engaged in the pelvis. Graduated pressure upon the fundus would have accomplished nothing upon a primipara with the soft parts so unyielding.

Probably the hand might have been introduced towards the fundus, the knees, or a knee, flexed, and one or both of the feet brought down; but sufficient traction could not have been made upon one leg within the limits of safety; and if exerted successfully upon both legs together, the soft parts of the maternal pelvis would have been so inadequately dilated that either fatal delay of the head or extensive laceration of the perineum might have ensued. I do not think the fillet could have been used as easily nor as efficiently as was the blunt hook, nor with any advantage in point of safety.

Dr. Barnes says: "Hooks and forceps (to the trunk) will, in all likelihood, either destroy the child or involve its death through the delay arising out of their inefficiency, or they may seriously injure the child."<sup>1</sup>

This statement seems too uncompromising. I see no objection to the trial of either forceps or hook, or to the use of each in succession, provided the adjustment and grasp are guided by proper care and judgment. Dr. Edwards and I felt that we had earned the gratitude of the parents for the substantial results of our efforts, but we failed to receive any evidence of their appreciation. On the contrary, anathemas, he says, were freely launched against me for the accident to the clavicle, without which, the child's life might have been lost.

CASE II. Mrs. C. D., a young American lady, primipara, nervous temperament, rather delicate, but healthy, had gone a month beyond her expected time, when labor began about midnight of November 29, 1885. Presentation was breech; position left anterior.

The first stage proceeded slowly during the night and the day following. Early in the evening of the 30th, the os being fairly dilated, I ruptured the membranes; but the breech did not advance beyond the brim, and I could not feel a foot. Dr. C. E. Stedman kindly responded to my telephonic appeal for aid, and arrived at 9 p. m. At this time, ether, with which I had been familiarizing the patient during pains in a preliminary way, was easily carried to full anaesthesia. It was decided to hasten delivery by securing a foot,

and, with this purpose, the left hand was introduced into the uterus. As had been suspected, the feet were at the fundus, near the child's face. Although the pressure from uterine contraction was strong, the left knee was flexed without very great difficulty, the thumb being in the popliteal space, and the fingers over the tibia, near the instep. The knee was then brought down, and the whole extremity set free.

The same hand was again introduced, and the same process repeated upon the right lower extremity. The upper extremities had to be released successively by flexing the elbows, with the fingers in the vagina. The head gave little trouble, and a full-grown, male infant soon breathed. The cervix and perineum were both torn. Ergot was inserted with a hypodermic syringe, and the placenta expelled by the help of external manipulation. The mother made a good recovery, with partial union of the perineal rent, which Dr. Stedman had united with three deep sutures of silk. The child likewise did well.

This case and the preceding one present obvious points of comparison and of contrast. I think the second case might probably have been delivered by the same method which was successful with the first. I am doubtful whether the first would have resulted safely for the child if the mode adopted with the second had been practised. If, in the second case, as in the first, the forceps had advanced the breech to the floor of the pelvis, and delivery of the trunk had then been carefully completed by fingers, fillet, or blunt hook, it seems to me probable that dilatation of the soft parts at the pelvic outlet would have been so gradually accomplished as to have kept the integrity of the perineum, without increase of peril to the life of the child.

There is the eminent authority of Dr. Barnes<sup>4</sup> in favor of bringing down one foot only, and that the anterior one; and he states that he "has brought a live child into the world by this proceeding on several occasions, where forceps, hooks, and various other means had been tried in vain for many hours." Dr. Barnes says that, by bringing down one foot out of the uterus, you thus break up the wedge; "and this," he repeats, "is the proper thing to do in the first instance." It is my belief that in neither of the three cases here reported could delivery have been effected by any safe and justifiable traction upon *one leg only*, if the other were left reflected upwards. With all deference to his great experience and skill, I must think that cases occur, where, after one extremity only has been brought out, enough of the wedge remains still unbroken to oppose serious obstacles to success by the simple use of the unarmed hand, with which he claims to have been always successful.

CASE III. Mrs. E. F., a strong, stout Irish woman, about twenty-eight years of age, was attended in her second confinement by Dr. H. C. Towle, of Dorchester. Her first child was born footling. Her second labor, October 25, 1886, began about mid-day, and Dr. Towle was called in the evening. At his request, I went to his aid at 1 o'clock, A. M., the 26th. He informed me that the os was well dilated; that the left arm was presenting, and in the vagina; that the back of the child was anterior, and its head in the right iliac fossa. After the patient was fully etherized, Dr. Towle introduced his right hand into the uterus, the

<sup>1</sup> "Obstetric Operations," Chapter XV.

<sup>2</sup> "Obstetric Operations," page 174.

<sup>4</sup> "Obstetric Operations," page 174, et seq.

woman lying on her back. I suggested that he try to reach the right knee or foot, so that rotation should go with version, but he could not find the right extremity, and brought down the left foot, with the toes anterior.



The uterine contraction had been very cramping to his hand; and evidently the child, lying transversely, by the joint influence of the traction and uterine action, had been rolled over before the full effect of the traction had secured version. The child now lay with its back posterior, and the sequel showed that probably both lower extremities were reflected towards the face at the beginning of labor. If this were so, the right foot probably lay behind the child's right shoulder, where it could not have been reached unless the knee could have been first flexed.

The diagram illustrates the supposed position before it was changed by interference.

The left foot having been secured by tape, Dr. Towle again introduced his hand, but it was so cramped that he withdrew it, and asked me to take my turn. After placing the woman on the left side, with the hips near the edge of the bed, I passed my hand nearly up to the fundus uteri, and found that the right leg was extended, so that the foot must be near the face. The knee was first flexed, and then, at the same time that the leg was brought down, the body, by the convenient leverage of the thigh, was rotated to the left, bringing the child's back anterior. The delivery was then readily completed in the usual manner. The child, a full-grown male, required some attention before respiration was established. The placenta was adherent in the uterus anteriorly, and was carefully delivered by the hand of Dr. Towle. The mother and child did well.

As trunk-presentations, and those of the breech having the legs reflected upwards towards the face, are both rare, perhaps this case, combining the two abnormalities, may, as a matter of record, be unique. By a reasonable application of the law of averages, I suppose there should be about four such cases in each million births.

My reasons for supposing the child's position at the beginning of labor to be that represented in the diagram are these:

*First.* The ease with which Dr. Towle reached the left foot, and his failure to find the right one at either trial.

*Second.* The improbability that the right leg, if flexed at first, would, in the process of, first, rotation, next, version of the trunk, have become extended.

*Third.* Reversely, the probability that the right leg, if extended at first, would remain so during and at the completion of rotation and version.

*Fourth.* The strong probability that, if either leg is extended, both legs are so.

#### REPORT ON MEDICAL CHEMISTRY.

BY WILLIAM R. HILLS, M.D.

##### THE POISONOUS ACTION OF POTASSIUM CHLORATE.

The view first advanced by Fourcroy and Alyon, that potassium chlorate, when taken into the system, gives up part of its oxygen, has, since the investigations of Binz<sup>1</sup> and Marchand,<sup>2</sup> been generally accepted in explanation of the poisonous action of the salt. B. J. Stokvis<sup>3</sup> contradicts this view, basing his opinion upon investigations of W. C. Kimmyser,<sup>4</sup> of H. C. M. v. Gorcom, and of his own.

Kimmyser has investigated the elimination of the chlorate in his own urine, and in that of rabbits and dogs. He found that, of four grammes of sodium chlorate, there was eliminated unchanged, in his own urine, 2.277 grammes, and in the urine of a dog, 3.618 grammes. In the urine of rabbits, to which one and sixteen grammes had been administered, he found 0.896 gramme and 13.53 grammes, respectively. On the days when the chlorate was administered, there was an increased excretion of chlorides (and usually of urea); but this increase, according to the author, is not to be attributed to a reduction of the chlorate, but to a drain on the system, since, on the following days, there was a diminution in the amount of chlorides excreted. The chlorate behaves, in this respect, like sodium nitrate, as Kimmyser determined by experiments on rabbits, whose urine had been rendered free from chlorides by inanition. He, therefore, concludes that a reduction of the chlorate in the system is not proven. Such reduction is also denied by Stokvis, Isamburt, Rabuteau, and Von Mering. The small amount of chlorate unaccounted for in the urine is explained, according to Stokvis, by slow elimination, by passage into the secretions, which takes place even after the ingestion of small doses, by reduction in the urine, and by experimental errors. Kimmyser finds that, when urine containing one per cent. of sodium chlorate is allowed to stand twenty-four hours at 20° C., twenty-four per cent. of the salt is reduced. This reduction does not take place at 0° C., or in acid urine, and is less when the urine has been boiled. It depends, according to the author, on beginning putrefaction. Reduction in the blood depends on complicated putrefactive processes, which take place only when the blood loses its vitality. There is formed, in this case, methæmoglobin and hæmatin. An increased temperature favors the process, but a reduction of the whole quantity of chlorate present takes place only rarely, and when the amount of salt is small.

The appearance of the blood observed in fatal cases of potassium-chlorate-poisoning is attributed, by the author, to post-mortem changes. The change does not take place in living blood; for the intravenous in-

<sup>1</sup> Archiv. für experim. Pathol., 1879, p. 153.

<sup>2</sup> Archiv. für pathol. Anat., 1879.

<sup>3</sup> Berichte der deutschen chemischen Gesellschaft, 1886, p. 778, from Archiv. für experim. Pathol., 21, p. 169.

<sup>4</sup> Académ. Proefschrift, Amsterdam, 1884.

jection of sodium chlorate in rabbits was followed by the appearance of albumen and sugar in the urine, but, in very acute cases, no methæmoglobin, which, in these animals, passes very easily from the blood to the urine. In protracted cases, however, an active hyperæmia of the kidney is set up, and the blood-corpuscles which pass into the urine are the source of the methæmoglobin which has been found in the urine in many cases of chlorate-poisoning.

The poisonous action of potassium chlorate is due, according to Jacobi, to paralysis of the heart, and this is attributed, by Leichtenstern, to the action of the metal. It does not differ, according to Stokvis, from the action of potassium chloride or sulphate in corresponding doses. According to these authorities, symptoms of poisoning take place only when the dose is large, or the solution concentrated, or when a considerable quantity has been taken into an empty stomach in the form of small doses, frequently repeated. Sodium chlorate acts, according to Van Gorcum, precisely like sodium chloride, whether administered by the mouth, or by the intravenous injection of concentrated solutions.

#### CARBONIC OXIDE; OXALIC ACID.

Gugliò<sup>4</sup> finds that neither of these bodies suffer oxidation in the system. Both are eliminated unchanged, the former with the expired air, the latter with the urine.

#### DIGITALINE.

Ph. Lafou<sup>5</sup> reaches the following conclusions, as a result of his study of this substance:

(1) Digitaline is absorbed slowly. (2) It is not eliminated by the kidneys. It could not be detected in the urine. (3) It does not appear to localize itself, at least, in the form of digitaline, in any particular organ, either in acute or slow poisoning. It is not cumulative. (4) It is not sensibly modified in the digestive apparatus. It appears to undergo a complete transformation in the circulation. This change is probably effected by some oxidizing agent. (5) Digitaline offers a relatively great resistance to both physical and chemical agencies, to various ferments, and to putrefaction.

#### THE POST-MORTEM DETECTION OF CHLOROFORM.

Dr. Charles Leudeking,<sup>7</sup> of St. Louis, the chemist employed in the Maxwell case, obtained, by chemical analysis of the lungs of Maxwell's victim, very decided reactions for chloroform. The analysis was made ten or twelve days after death, and the body was in a high state of decomposition. As the great volatility of chloroform would seem, *a priori*, to preclude the possibility of its detection so long after death, and as, at the same time, there was considerable doubt expressed as to the reliability and accuracy of the experiments, the chemist determined to decide the matter by direct experiment, and so set at rest all doubt.

Dogs of from fifteen to twenty pounds' weight were destroyed gradually, by the administration of chloroform through the lungs, in from five to ten minutes. Then the carcasses were allowed to stand in summer's heat, or at the temperature of the room, for different periods of time, and finally, the lungs removed and tested for chloroform by the Ragsky method. A very

decided reaction for chloroform was obtained in each experiment.

Three experiments were also made to determine whether or no any substances are generated by the process of decomposition, which might give reactions similar to those of chloroform, and thus lead to erroneous conclusions. The results in each case were negative.

The conclusions reached were the following:

(1) By the process of decomposition, no substances are generated which can vitiate the tests for chloroform by the Ragsky method. (2) Chloroform, when it has caused death by inhalation, can, with certainty, be detected in the body four weeks after death; and, notwithstanding its volatility, it is certainly retained in the viscera in large amount during this time.

On the strength of the Ragsky and Hoffman tests, the author gave it as his sworn opinion that the deceased Preller had chloroform in his viscera; and Maxwell, after the lapse of a year, confessed that chloroform had been the cause of death.

In explanation of the retention of chloroform in the tissues for so long a time after death, the author calls attention to the investigations of R. Dubois,<sup>8</sup> who finds that chloroform penetrates into the interior of the tissues, and becomes substituted for normal water. This is not a phenomenon of desiccation or osmosis; a true affinity comes into play, protoplasm absorbing the vapor of the anæsthetic, and expelling a certain quantity of water.

Chancel and Parmentier<sup>9</sup> have proved that chloroform has a very decided affinity for water. The author allowed to stand open a flask, containing water holding a small quantity of chloroform in solution. After two weeks' time, the chloroform reactions could still be obtained without difficulty.

The author calculates that the quantity of chloroform in the lungs of a man of one hundred and fifty pounds' weight, rendered insensible from its inhalation, would be about one-half gramme—an abundant amount for its detection. This calculation is based upon the experiments of Grehaut and Quinquaud,<sup>10</sup> who found the amount of chloroform necessary to produce anæsthesia to be, at least, one gramme to every two liters of blood.

#### RESISTANCE OF COLCHICINE TO PUTREFACTION.

Ogier<sup>11</sup> has made experiments which confirm the result previously obtained by Dannenberg. Three dogs were poisoned by colchicine: one by 0.5 gramme injected subcutaneously; a second by 0.1 gramme administered in the same way; the third by 0.5 gramme introduced into the stomach. The bodies were buried, and exhumed five and one-half months later. In the extracts from the various organs Ogier obtained satisfactory reactions for colchicine with nitric acid (specific gravity 1.4), and with ammonium vanadate recently dissolved in sulphuric acid. The organs of two of the animals were in an advanced state of decomposition.

#### POISONING BY SILVER SALTS.

Krissinsky<sup>12</sup> reaches the following conclusions, based upon an examination of the organs in three

<sup>4</sup> *Archiv der Pharmacie*, 1886, p. 1032. Abstract.

<sup>5</sup> *Journal de Pharmacie et de Chimie*, January, 1887, p. 96, from *Ann. d'Hyg.*, December, 1886, p. 566.

<sup>7</sup> *St. Louis Medical Review*, November 20, 1886, page 572.

<sup>8</sup> *Chemical News*, 1886, p. 311.

<sup>9</sup> *Comptes Rendus*, 190, p. 27.

<sup>10</sup> *Comptes Rendus*, 97, p. 753.

<sup>11</sup> *Ann. d'Hyg.*, 1886, p. 445.

<sup>12</sup> *Journal de Pharmacie et de Chimie*, 1886, p. 517.

cases of poisoning in the human subject, and upon experiments with animals:—

(1) The black granulations met with in the tissues are composed of an organic compound of silver, the exact nature of which is not fully known. (2) The silver is first deposited in the coats of the bloodvessels and only later is found in the connective tissue. (3) The accumulation of the metal in the walls of the vessels leads to deeply-seated changes and degeneration. (4) The black granulations are found in the epithelium as well as in the endothelium, in the afferent as well as the efferent vessels of the Malpighian corpuscles, and in the lymphatic corpuscles of the blood. (5) In the liver the silver is deposited principally in the radicles of the portal vein and of the intralobular veins; but it is also found in the capillary plexuses uniting the two systems, as already determined by Huyet. (6) The deposit of silver in the tissues has been observed in cases of poisoning of forty-eight hours duration; but it did not then possess the characteristic dark color, and only acquired this under the influence of sulphuretted hydrogen. (7) The most abundant deposit of silver is found in the cells of the medulla of the bones.

#### DETECTION OF MERCURIC CHLORIDE IN ORGANIC MIXTURES.

Mercuric chloride, when mixed with organic matter, is slowly reduced to the metallic state. This reduction, according to Lecco<sup>13</sup> is usually complete within six weeks. If the mixture is boiled the reduction takes place immediately. In order therefore to detect corrosive sublimate as such, in foods and similar mixtures, the latter must be examined early, and must be treated with cold alcohol and ether before heating.

On distilling foods, etc., containing finely-divided mercury thus formed by reduction, a portion of the mercury passes over with the steam.

#### MITTSCHERLICH'S TEST FOR PHOSPHORUS.

Porlstorff and Mensching have shown that, in the employment of this test in toxicological investigations the luminosity of the phosphorus vapor is destroyed, if the substance under examination contains corrosive sublimate. They now find that this is the case with other mercury salts.<sup>14</sup> The salts of copper have no effect on the luminosity. The authors conclude that the corrosive sublimate volatilizes in part, and that a reaction takes place between this and the phosphorus vapor; some reduced mercury passes over into the distillate, together with a small amount of phosphoric acid, the greater part of the latter, however, falling back into the distilling flask. The action of other soluble mercuric salts in preventing the luminosity, is explained by their conversion to corrosive sublimate by the chlorides present. Calomel appears to be decomposed by albuminous matters into corrosive sublimate and metallic mercury. Bernbeck<sup>15</sup> states that copper sulphate interferes to some extent with the detection of phosphorus by this test. This statement derives its importance from the fact that copper sulphate is the most useful emetic in cases of phosphorus poisoning. When this emetic has been administered, the particles of phosphorus may become coated with a crust of reduced copper sufficiently thick to prevent the solution and oxidation of the phosphorus when

the vomitus or contents of the stomach containing it, are subjected to analysis. The indications are to make the materials more strongly acid before commencing the analysis.

Mankiewicz<sup>16</sup> states that small amounts of phosphorus may easily be overlooked in the presence of carbolic acid. No luminosity could be detected when two hundred grammes of a three per cent. solution of carbolic acid, containing two milligrammes of phosphorus were distilled. The luminosity was plain, however, when the same solution containing five milligrammes of phosphorus was examined.

#### SNAKE POISON.

R. N. Wolfenden<sup>17</sup> finds that the toxicity of the venom of the Indian cobra (*Naja tripudians*) is not due to any bacterium or living organism, nor to any alkaloid—alkaloids and ptoamines are entirely absent from the venom—nor is it due to any cobric acid such as was described by Blyth. The author finds that the crystals to which the name cobric acid was given, are in reality, composed of calcium sulphate. The venom, however, is sometimes faintly acid, sometimes neutral. The poisonous properties of the venom are due to its proteid constituents, which are as follows:—

(1) Globulin, which is always present and kills by causing asphyxia. (2) Syntonin, which is precipitated by magnesium sulphate with the globulin. It dialyses through parchment paper to some extent. The poisonous property of the acid dialysates is due to this proteid, not to cobric acid. Its action is similar to that of the globulin, but less intense. (3) Serum albumin; this is also toxic, producing paralysis. (4) Traces in some specimens of hemialbumose, and questionable traces of peptone are regarded as accidental.

With regard to the venom of the Indian viper (*Daboia Russellii*), it is found to be of the same reaction as that of the cobra; but here again there is no toxic acid, alkaloid, or living organism, but the proteids are the poisonous constituents; these are three in number:—(1) Globulin, which greatly preponderates as in cobra venom; (2) Serum albumin in small amount; (3) A proteid which possesses many of the properties of an albumose. True peptones do not occur, and it is probable that the substances described by Weir Mitchell and Reichart in crotalus, copperhead, and moccasin venoms as peptones are in reality albumoses.

(To be continued.)

## Hospital Practice and Clinical Memorandum.

### A CASE OF DIFFICULT LABOR.<sup>1</sup>

BY EDWARD REYNOLDS, M.D.

On September 24, 1886, in the absence of Dr. Boardman and Dr. Green, I was called to the Boston Lying-in Hospital to see a patient with the following history:

F. L., twenty-nine years of age, married, and a native of Ireland, had miscarried once, but was at term

<sup>1</sup> Read before the Section of Obstetrics and Gynecology of the Suffolk District Medical Society, January 19, 1887.

<sup>13</sup> Archiv der Pharmacie, January, 1867, p. 32.

<sup>14</sup> Journal of the Chemical Society, London, December, 1886, page 1057, from Journ. Physiol., 7, page 327.

<sup>15</sup> Berichte der deutschen chemischen gesellschaft, 19, p. 1175.

<sup>16</sup> Berichte der deutschen chemischen gesellschaft, 11, p. 1763.

<sup>17</sup> Archiv der Pharmacie, November, 1886, p. 936. Abstract.

for the first time. Labor began at 6 P. M., of the 22d, and she entered the hospital the same evening, when her condition was as follows: The os admitted the finger-tip; the membranes were ruptured; the position was O.L.A. The fetal heart was strong and regular at 132. The head was within easy reach of the finger; the pains were slight and infrequent.

During the night the cervix was taken up, and the os reached the size of a ten-cent piece; but, as the pains were short and "nagging," and the os wired, chloral, gr. xv, was given at 3 A. M., and repeated twice, at short intervals. No very marked effect followed; and at 10 A. M., the pains being almost continuous, short, and ineffectual, she was etherized to snoring anaesthesia for about five minutes. Under ether, the os relaxed and dilated to the size of a fifty-cent piece; the patient slept about an hour, and had strong pains, with good intervals, during the next twelve hours, but without effect upon the os; the pains then died away, becoming short and infrequent. The os again became rigid, and recontracted slightly, and in spite of two fifteen-grain doses of chloral at 11 and 11.30 P. M., this condition lasted throughout the night; but as she slept well in the intervals, and did not appear exhausted, I was not sent for till 6 A. M. (September 24th).

The patient had now been in labor about thirty-six hours. The os was small, rigid, and tightly applied to the head, which was low and not easily movable. The patient had become languid and indifferent, and was decidedly irritable when roused; but as the maternal pulse and temperature were normal, and the fetal heart remained strong and regular, there seemed to be no urgent reason for interference. There was, however, a prominent caput succedaneum; and the fact that pains of sufficient strength and regularity to cause its presence had persisted for twelve hours, and had then died away, and been succeeded by feeble and irregular contractions, led me to infer that some efficient obstacle existed, and to believe that, at the least, a thorough examination under ether was indicated.

Under ether, the os was soft and dilatable, and the head, though still within the reach of little more than the first joint of the forefinger, was freely movable; the relaxed condition of the os now made it possible to pass two fingers high up around the head, and the promontory of the sacrum was easily reached, the greatest diameter of the head being still above it. I then measured the pelvis, with the following results:

Distance between Iliac spines	9½ in.
Distance between Iliac crests	10½ "
Extern. Conjugate	7½ "
Diag. Conjugate	4½ "
Length of Symphysis	2 "
Inclination of Symphysis	much diminished.

It was evidently a flattened pelvis, with probable diminution in all diameters; and, after taking into consideration the diminished inclination of the symphysis and its increased length, I was inclined to estimate the true conjugate as 3½ inches.

There was as yet, however, no sufficient indication for so serious an operation as delivery through a rigid os. On passing the fingers up along the anterior uterine wall, the lower segment was found tense and thin; and, at least two inches above the symphysis, I found a well-defined contraction-ring. On bimanual examination, the difference in thickness between the upper and lower uterine segments was extremely marked, being, at least, three-eighths of an inch. Finally, it

was possible to determine the position of the contraction-ring by external palpation alone, the abdominal walls being thin.

The whole case was now clear: The head was too large to pass the flattened brim; but the decreased inclination of the symphysis brought the anterior end of the obstetrical conjugate so low, that, after the head had been subjected to the molding processes, that portion of it which lay anteriorly was almost at the vulva, while its greatest diameter was, in reality, above the superior strait.

The long-continued efforts of the uterus, exerted against an insuperable obstacle, had produced a state of tonic spasm of the uterine muscle, in which the cervix clasped the presenting part, while the head, as a whole, was pressed firmly against the pelvis by the uterus above. The lower uterine segment had become markedly thinned, and the woman was in a critical condition, in spite of the absence of the usual signs of exhaustion.

The question of treatment now presented itself. It was evident that to leave the case to nature meant ultimate rupture of the uterus; and, the child being in good condition, that the choice lay between the application of high forceps and version. Abdominal palpation proved that a sufficiency of liquor amnii remained; and as I felt sure that it would be extremely difficult to bring so large a head through a flattened pelvis by means of forceps, in addition to the difficulties in applying them with the head above the brim and through the undilated os, I decided to dilate and turn.

The os was quite resistant. Its dilatation occupied nearly 50 min.; and, though the child turned easily, the cervix closed so tightly upon the breech that I was obliged to make the extraction very slow, in deference to the risks to the mother.

There was no other real difficulty in the extraction; and the child, which weighed 8½ pounds, though born asphyxiated, was resuscitated without much difficulty. Convalescence was uninterrupted, and mother and child were discharged, well, on the fourteenth day.

This case was interesting to me, as illustrating the importance of watching the character and behavior of the pains, in addition to the condition of the mother. Here was a woman who might easily have appeared, on superficial examination, to be merely undergoing a long first stage. The pains were slight and infrequent; the head was apparently well into the pelvis, and more or less firmly fixed in position; the os was rigid and resistant; the fetal heart was strong and slow; the mother's pulse and temperature were normal; and she was resting well between the pains. It is in just such cases that an expectant policy is often pursued, for fear of doing meddlesome midwifery by interference with the os during the first stage; but the fact that pains of sufficient strength and regularity to produce a large caput had failed to dilate the os, and had died away, to be succeeded by faint and infrequent contractions, made it at least probable, that delivery was delayed by some obstacle other than the condition of the os; and examination under ether showed that, in spite of her normal pulse and temperature, the woman was in a condition in which extreme exhaustion, and probably rupture of the uterus, must have supervened within a few hours; while the relief of this condition, by the operation of version, was as yet by no means difficult or extremely dangerous.

## Reports of Societies.

### SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

JANUARY 19, 1887. DR. A. D. SINCLAIR in the chair.

DR. J. S. GREENE, of Dorchester, reported

THREE CASES OF LABOR, TWO BEING BREECH, AND THE OTHER ARM PRESENTATIONS, WHERE THE ARMS WERE EXTENDED AND THE FEET WERE NEAR THE FACE.<sup>1</sup>

DR. E. W. CUSHING mentioned the case of the son of the Crown Prince of Germany, at whose birth Ed. Martin was the accoucher. The clavicle or humerus was broken, and partial paralysis of the arm ensued, preventing, it is said, the power of handling a sword.

DR. EDWARD REYNOLDS reported

#### A CASE OF DIFFICULT LABOR.<sup>2</sup>

DR. SWIFT said he had been very much interested by the paper, as he had had two quite similar cases. One where the pelvis was flattened, and the other a universally contracted pelvis. In both labor was allowed to go on for a long time without the condition being suspected, the patient in each case, to all appearances, being well formed.

He thought that when we were engaged for a case of confinement in a primipara the pelvis should always be measured as soon as possible.

It seemed to be the opinion that contracted pelvis was very rare in this country, but he thought the condition must be getting more common, for he had met with several cases lately.

DR. FARLOW said he was much interested in Dr. Reynolds's allusion to the thinning of the lower uterine segment. Particular attention had been called to this point by Bandl, of Vienna, whose pamphlets on the subject had excited considerable discussion. When, in a case of tedious labor; it is found that the lower portion of the uterus is thinning, especially anteriorly, we should at once try and make out whether this thinning is not due to the continued ineffectual attempts of the uterus to expel a child through a narrowed pelvis. Steps should at once be taken to ascertain the pelvic diameters, if possible. It is this lower and thinned portion of the uterus that rupture usually takes place, and not at the fundus, and forceps or version should be considered without delay. Very little has been said or written here about this condition, but in Vienna it has received considerable attention. In regard to version, Dr. Farlow mentioned a case of narrow pelvis which he had recently had, in which ordinary forceps and axis-traction forceps had failed, and where version and forceps to the after-coming head had been successful.

In answer to a question of Dr. Fifield, as to how far Bandl's ideas on the subject of a ring above the os internum are accepted, Dr. Farlow thought that less reliance was placed in its existence and significance than Bandl had hoped, but that such a ring often existed Bandl's plates seemed to prove beyond doubt.

DR. EDWARD REYNOLDS, in answer to a question of Dr. Irish, said that in a flattened pelvis with the

greatest diameter of the head still above the brim it was better to turn, because the forceps would compress the head laterally and increase the length of the antero-posterior diameter. His experience with version in the flattened pelvis had given him confidence in that operation.

DR. REYNOLDS thought that the pelvis should be measured in all cases where circumstances permitted it. He has had experience with some ten or twelve cases of flattened pelvis. His method is to measure internally with two fingers, getting the distance between the pubic arch and the sacral prominence during the first examination in labor, and to make more extended measurements if there seemed to be reasons for it.

DR. BLODGETT stated that he had had one case, in which the pelvis was apparently similar in shape to the one reported in the interesting paper by Dr. Reynolds. The child in this instance was large and very high up and, after some delay, the services of the senior Dr. Reynolds were obtained in consultation. He fully concurred in the opinion of the condition of the pelvis, and after some further delay the high forceps were applied. In spite of the most strenuous efforts, no apparent advantage resulted from this procedure, and it was considered advisable to perform version. This was with some difficulty accomplished and proved the means of comparatively rapid, though by no means of easy delivery. The maternal passages were considerably lacerated, and there was dangerous flooding, with imminent peril to the life of the mother. The perineum was wholly restored without operation, and the mother has since been again confined with no serious complication so far as heard from. Dr. Blodgett feels that in a similar case he would resort to version at an earlier stage in the case, both in the hope of averting a certain degree of augmented danger to the mother, as well as of affording the possible means of saving the life of the child, which is often sacrificed by too long delaying necessary operative interference.

DR. CUSHING spoke of the custom in Vienna of waiting ten to fifteen minutes during the operation of version when the child had been turned, so that the foot came outside before completing the delivery. It is much better for the child, and less children are born asphyxiated. During the process of turning the child's heart becomes rapid, fluttering and irregular, and it requires ten minutes to quiet it. And ten minutes or often more are necessary for the uterus to relax its contractions which hold the child. He had a case of this kind and could not deliver the head, but in about twenty minutes it came out easily. Dr. Morland had a similar case. The head was gripped and could not be delivered, and both woman and child were lost.

DR. A. E. McDONALD mentioned a case, which he had had about eight years ago, where it was the woman's last chance, owing to her age, of having a living child. Being over-anxious on this account, the body was immediately brought down, but the head was arrested, by being firmly grasped by the uterus, defying all reasonable efforts at delivery; but, after a few minutes, the spasm subsided, and the head was easily delivered, but the child was beyond resuscitation. Since then it has been his custom to wait, after turning, some ten or fifteen minutes, before pressure is made on the cord, to give opportunity for the tonic uterine spasm, caused by the manipulation, to subside, as delivery of the head is then more easily accom-

<sup>1</sup> See page 325 of the Journal.

<sup>2</sup> See page 329 of the Journal.

plished. He said that he had had five or six cases in which he had applied forceps to the after-coming head in flat pelvis, in none of which he had met with any difficulty.

DR. FIFIELD mentioned a case of a woman, pregnant to term but not in confinement, to whom he was called about midnight, on account of retention of urine. No pain. She had not passed urine since noon the day before. Examination of the abdomen showed a distended bladder. Per vaginam the os was found partially dilated and membranes were to be felt. An effort was made to pass a silver catheter but an obstacle, apparently the head, presented. He tried a gum-elastic catheter in vain. He then went home and obtained several small olive-pointed catheter bougies, and, after trying several, he succeeded in passing one, about a No. VI. The urine came out in fast falling drops, to the amount of two and one-half cupfuls; some more was lost. Pains then started up at long intervals, and in six hours he ruptured the membranes. The pains then increased and at nine o'clock the next morning high forceps were applied and the child delivered. A full-sized catheter was then passed. If he had not had the small catheter it would have been necessary to have aspirated. He said he should not hesitate to aspirate once or twice, but should not care to repeat the operation.

He considered the relief of the bladder of two-fold importance. He recalled a case which he saw in consultation, where the woman had not passed urine for a long time. The physician in attendance had tried forceps in vain. Dr. Fifield passed a catheter and the delivery followed at once.

He spoke of an English physician who said he had prevented flooding by passing the catheter after delivery of the placenta; it permits the uterus to contract.

DR. R. J. P. GOODWIN mentioned a case of a prostitute to whom he was called to remove the fragments of a broken glass syringe, which she had been using for masturbation. About one-half of the syringe was broken in fragments within the vagina, and he was in a quandary what to do. If he inserted his finger to remove the glass he would cut it, and the soft parts might be injured. With a Davidson syringe he pumped the vagina full of olive oil, holding the lips of the vulva firmly closed, and then telling the woman to stand, and spread her legs open, after stamping upon the floor to allow the glass to gravitate downwards, he let go the vulva and out came the glass fragments and oil together, without the slightest injury resulting therefrom.

DR. FIFIELD spoke of a woman to whom Dr. Appleton was called in Florence, to remove a broken syringe. He pumped the vagina full of gruel with beneficial results.

#### ROXBURY SOCIETY FOR MEDICAL IMPROVEMENT.

C. F. WITHINGTON, M.D., SECRETARY.

MEETING March 24, 1887.

DR. CALL in the chair.

DR. COTTING reported a case of

#### RADICAL RELIEF OF INFLESHED TOE-NAIL.<sup>1</sup>

DR. GOSS said that he had often seen this operation

<sup>1</sup> See page 324 of this number of the Journal.

performed, and in some very desperate cases. He remembered the instance of a young gentleman, who had been quite crippled for a long time by the disease, and had submitted to many and various kinds of treatment, some quite severe, without avail. At the time when seen he was completely laid up. Both great toes were hugely swollen, and intolerably painful—with foul, open, fungoid ulcerations on the sides of each.

Four very large and thick slices were removed at the same time. Relief was immediate, and the result entirely successful. The toes became symmetrical and shapely, so much so that when, a year or two after, he underwent a thorough, from head to foot, examination for a Naval Commission, the examiners apparently failed to detect that he had ever been subject to the malady. He subsequently reported that he had found that he had as good-shaped and as useful toes as any other officer in the service.

DR. GOSS recalled another case also cured by this method where the ailment had recurred after the evulsion of the nail. He never knew of a case of failure by Dr. Cotting's method.

DR. WITHINGTON spoke of the cicatrix he had examined in one of Dr. Cotting's old operations, as having drawn all the soft parts so thoroughly away from the edge of the nail as to preclude any possibility of the lesion ever being reproduced. The shape of the toe was good, and, apparently, had been essentially improved by the operation.

DR. SEAVENS asked Dr. Cotting if he had not formerly advised the including of a slip of the nail in the slicing off of the side of the toe.

DR. COTTING replied that he had not;<sup>2</sup> but that he had said that, while not necessary, if, in attempting to secure quite enough, the edge of the nail should by chance happen to be included in the cut, no harm would arise therefrom.<sup>3</sup> It is better to remove too much than too little. By force of habit he generally operated by one continuous rapid stroke of the knife,—an important point in his first cases before the discovery of anaesthesia.<sup>4</sup> Now, some operators, in order to secure the exact amount predetermined on, pass a double-edged knife midway by the side of the nail and downward through the toe, very deliberately (the patient being under ether) cutting out both ways, forward and back. By so doing the nail is not put to any risk whatever. Nevertheless, the edge of the nail should be completely exposed throughout its whole length.

DR. SEAVENS asked also if the wounds were not sometimes very slow in healing. He had had one patient who was greatly annoyed because of long delay in this respect.

DR. COTTING replied that he had never known of any tedious delay; that, in his experience, the healing was as rapid usually as in other wounds of similar gravity. Besides, the tendency of the wound is always towards healing; that of the disease seldom, if ever.

DR. GARCEAU, who had performed this operation many times, now employs as a tourniquet a small rubber tube (such as usually comes with nursing bottles). After compression is effected, he removes the tube in part, from below, leaving the other portion on until the operation is over, and the dressings applied. He touches the surface of the wound with the perchloride

<sup>2</sup> Boston Medical and Surgical Journal, May 17, 1866, p. 340.

<sup>3</sup> Ibid, Jan. 2, 1873, p. 5.

<sup>4</sup> Ibid, June 25, 1879.

of iron. Patients thus treated, have been able to walk about at once in soft slippers; and some have gone to their business the day after the operation. With him Dr. Cotting's method has always succeeded. He had operated on persons, half a dozen at least, of over seventy years of age, without a failure or an accident.

#### THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, March 17, 1887.

DR. T. MITCHELL PRUDDEN read a paper on

**BACTERIA IN ICE, AND THEIR RELATIONS TO DISEASE, WITH SPECIAL REFERENCE TO THE ICE SUPPLY OF NEW YORK CITY. AN EXPERIMENTAL STUDY.**

He first gave a description of the recent method of the biological analysis of water, and then showed that by it we could detect with great certainty the presence of bacteria, some species of which are capable of giving rise to the most serious disease. When we had determined the number of bacteria present in water or ice, however, a careful consideration of other conditions was still imperative in order to determine whether the water or ice was fit for use. The popular impression that water purifies itself in freezing was only partly true, so far as the bacteria are concerned. The partial purification from bacteria was accomplished, not by their expulsion from the water, but by the death of a certain proportion of them; so that if the bacterial contamination of the water were extreme, or were largely made up of the more hardy species, the ice formed from it, even though quite transparent, might still contain large numbers of the living germs. His experiments showed that bacteria of different species possessed differing degrees of vulnerability to the action of low temperatures. Certain species which were capable of producing serious and even fatal diseases in man—the bacillus of typhoid fever and the common bacterium of suppuration, for example—were capable of resisting a prolonged low temperature, with the destruction of only a part of the individuals thus exposed. In the case of the typhoid fever germ the exposure has lasted seventy-seven days. The resisting capacity of the different species was found to vary with the vitality of the individuals, the degree of temperature, and the time of exposure; while alternate freezings and thawings sufficed to entirely exterminate in a short time all species experimented on—even those which could endure a sustained low temperature for long periods. In this investigation, data were gathered which seemed to justify the conclusion that in the freezing of natural waters there may be a purification from bacteria amounting to as much as ninety per cent. The effect of freezing on water was shown to be comparable to that of filtration, but with this vital difference, that whereas by filtration, all forms of bacteria are removed in approximated equal ratio in the process of freezing, which acts as a sort of relative filtration, some of the most dangerous forms may be retained, while others are destroyed.

The supply of ice for New York city was principally derived from a series of naturally excellent lakes or ponds, and from the Hudson River; the latter constituting by far the most important source. This was a great tidal stream rich in sewage pollution. The

ice was harvested mainly between Troy and Poughkeepsie, and in the upper part of this region the river received the entire sewage of the large cities of Albany and Troy; to say nothing of such smaller places as Cohoes and Lansingburgh, and the contaminations which the Mohawk River brought from the West. While, however, the conditions on the upper Hudson did not seem, during the ice-forming season, to be such as would favor purification from organic matter by oxydation, they did yet seem to be theoretically and were shown to be practically favorable to a considerable degree of spontaneous purification from bacteria by sedimentation. Still the limits and extent of this purification were yet to be determined.

Coming to the actual analysis of the ice brought from the Hudson and from the lakes and ponds referred to, it was found that there was a much greater number of bacteria in the snow-ice than in that which is clear or moderately full of bubbles. The species of bacteria were much more varied and abundant in the river-ice than in that from the other sources, while in both there was a considerable proportion of the relatively harmless water bacteria. While the number of living bacteria varied greatly, not only in different parts of the same block of ice, but also in ice from different parts of the river, and from different lakes and ponds, the average number was considerably greater in ice from the river than from the lakes and ponds, even when Albany ice, which is the worst of all, was excluded from the estimate. It was found, also, that the average number of bacteria in ice from all sources taken together, was far beyond the general standard which even a moderate degree of purity would allow.

We now stood face to face, Dr. Prudden went on to say, with the most difficult and at the same time the most important part of this study, namely, the interpretation of its results and the suggestion of its practical lessons. The natural situation of the lakes and ponds was good, and evident sources of contamination with sewage and excrementitious material could be largely excluded. Whether in the case of Rockland Lake, which was the most important source of this character, certain dwellings on the hillside near by might furnish a source of absolute danger in the event of an outbreak of typhoid fever there or not, he was not prepared to say. As regards the lake and pond ice, in general, we might conclude that, although the product from some of them contained a larger number of living bacteria than was consistent with the highest hygienic standards, the conditions could be readily changed so as to render them quite unimpeachable; while in some cases, notably in the smaller ponds, the ice, so far as his analysis showed, was well within the ordinary standards of excellence.

The Hudson River, on the other hand, stood on an entirely different basis. Now, given the Hudson River ice as we found it, and knowing what we did of the character of the stream, what actual danger had we to fear from the use of the ice for drinking purposes? A considerable number of the bacteria which it contained were undoubtedly the relatively or absolutely harmless species which may exist in any natural river or spring water; but a large number might, with equal certainty, be assumed to originate from animal excreta. Here, again, it was scarcely to be doubted that a considerable proportion of the bacteria existing in sewage, and coming from human and other animal

excreta, and the varied putrefying fluids which form a prominent ingredient in the water of populous towns, might not be positively dangerous if taken into the body, in moderate quantities, in drinking-water. So far as such bacteria went, it would seem to be largely a matter of taste, on the part of the consumer, whether or not he used such material for drinking purposes. On the other hand, in every large town, like Albany or Troy, and in smaller towns in lesser degree, a considerable quantity of bacteria, which are the cause of serious disease, were more or less constantly passing into the sewers in the excreta and other waste; and here, the use to which this diluted sewage should be put ceased to be a matter of individual preference, because the interests of the public health were involved.

There were some varieties of diarrheal disturbance, sometimes severe and sometimes mild, which often seemed to depend upon impure water or ice; but whether they were occasioned by sewage or other bacteria, or by organic matter, or by both, was not yet certain, so that this class of cases could be left out of view. Fortunately, cholera and anthrax, both bacterial diseases transmissible by drinking-water, were not ordinarily present in the sewage of the region under consideration; so that these diseases, although they could not be ignored by those having the public health in charge, did not fall within the scope of the present study. But there were two very common and very important bacterial diseases which were almost constantly present in large towns, like Albany, and frequent enough in villages, like those along the shores of the Hudson: These were typhoid fever and the affections associated with acute suppurative, and the so-called blood-poisoning from wounds or pyæmia. Now it was, unfortunately, true, as Dr. Prudden's studies had shown, that the bacteria causing these two forms of disease were markedly resistant to the temperature at which ice forms. The most important of these was the typhoid bacillus. The health statistics of Albany did not show the number of cases; but, for the past three years, the number of deaths from typhoid fever in that city during the ice-forming and harvesting months, that is, from December to March, had averaged about sixteen for each year. Reckoning the death-rate at thirty per cent. (which was unusually high), there would be, each year, about fifty cases of typhoid, whose excreta would pass directly into the Hudson River from Albany alone during the ice-forming season. He had been informed that, in Albany, as in most American towns, there was no systematic disinfection of the typhoid discharges, either in hospital or private practice. The bacteria of typhoid fever had been repeatedly shown to be capable of living for a considerable time in water; and, according to Frankland and other authorities, they might even proliferate in water. Dr. Prudden had also found, as has been stated, that when frozen up in ice, a certain proportion of these bacilli might live on for long periods, ready, when thawed out and placed under favorable conditions, to go on growing or proliferating, just as before their hibernation.

Here, then, as it seemed to him, was the positive source of danger in the use of the Hudson River ice directly for drinking purposes, without some form of filtration; at least, until it could be ascertained at what distance, if at all, below Albany and other towns, whose sewage drains into the river near the ice-fields, a safe degree of bacterial purification of the water by

natural means might have occurred. The typhoid bacillus had not been detected in the Hudson River ice; and to detect it, even though present in considerable numbers, in its mixture with other species, and in the large dilution which exists, presented very great practical difficulties. It had been found in water suspected to be the cause of certain local outbreaks of typhoid fever, but the conditions for its discovery were much more favorable than in the present case.

If, on the other hand, we looked at the cases of typhoid fever as they were constantly occurring in New York and the adjacent towns, in which the Hudson River ice is used, we did not find, and we should not expect to find, any marked excess of typhoid fever from among those who habitually use ice for drinking purposes over those who do not. This was because the sanitary surroundings of the classes which use little ice were so much less favorable, as a rule, than those of the habitual ice consumers, that other sources of infection, equally, and even more efficient, would abundantly cover any difference in the number of cases in the two classes that might otherwise be noticeable. Whether infection through impure ice is of frequent or infrequent occurrence, was not now known. That it was not, however, so important a factor in the transmission of the disease as to render the typhoid fever statistics of New York worse than those of other towns, whose residents use cleaner ice, was certain. But there was a considerable number of cases of typhoid in which the most painstaking examination of the sanitary surroundings of the victims and their personal contacts failed entirely to account for the origin of the disease; and some of these might well be cases of ice-poisoning from the typhoid bacillus.

It was to be remembered in considering this, as all other bacterial diseases, that the bacteria themselves were only one factor in determining the disease. There was to be taken into the account also the number of the bacteria—that is, the size of the dose—and the conditions of predisposition or susceptibility of the individual. Unfortunately, however, we know nothing about the number of typhoid bacilli necessary to induce the disease in man, and we were nearly equally ignorant concerning the nature of the predisposing conditions. So, then, if we summed up what we really know about the relation of Hudson River ice to typhoid fever, we could only say that it is certain that the ice from some parts of the river must contain the bacteria of typhoid fever, and that these may be taken into the system in a living condition with ice-water. Whether the necessary relationship between the number of bacteria thus taken and the condition of predisposition of the individual occurred frequently, or ever occurred at all, we could not positively say; but the grave character of the disease should warn us against indifference and impress upon us the importance of adopting such measures as will secure the consumer against even the possibility of such infection.

With the bacteria of suppurative and pyæmia, the case seemed much less serious, because of the very general antiseptic treatment of wounds now in vogue; but the fact that the *staphylococcus pyogenes* might be in the Hudson River ice in a living condition should not be lost sight of.

Dr. Prudden next considered the practical measures which, as these studies seemed to show, should be adopted in order to guard against a not only possi-

ble, but very probable, source of danger in the Hudson River ice. He would not leave out of sight the great and important private and corporate interests which are involved in the supply and consumption of ice; nor would he wish in any measure to suggest by these studies a curtailment in the consumption of ice, even for drinking purposes. The measures which might be adopted in view of the present condition of affairs were of two kinds; first, such as would come under the supervision of health officers, and, second, those which belonged in the province of the individual consumer.

In the first place, then, it would seem necessary that the State Board of Health, or some other authorized body, should be placed in charge of the ice-harvesting fields, and, by a system of inspection not less strict than that which should exist in the case of the ordinary water-supply, determine which, if any of the sources of ice-supply are so situated as to imperil the health of consumers of ice. In view of Dr. Prudden's investigations, this would appear to be comparatively simple in all cases except that of the Hudson River. Here it would be necessary to establish by a most thorough scientific examination the distances from all sources of sewage pollution at which it might be safely assumed that the water had freed itself from the bacterial and other impurities sufficiently to form safe ice. It might in this way be possible to remove any chance of danger by permitting the questionable or bad ice to be sold only for cooling purposes, if such a classification were practicable, and thus not materially interfere with the interests of the ice companies. A compulsory system of disinfection of excreta in infectious diseases might be instituted, as it had been in other countries in which the purity of the water-supply was under constant supervision.

As regards the precautions which the individual consumer might adopt, it was evident, from the facts that had been brought forward, that if he could be certain that his supply came only from the lakes or ponds he would secure for himself a fair degree of immunity from danger. Remembering that the larger and more responsible ice companies did not, so far as he was aware, cut ice in the immediate vicinity of Albany, but at a considerable, and in most cases a great, distance below, the householder might eliminate to a large extent his hazard by finding out as accurately as possible just what part of the river his ice came from. Whatever the source of supply, however, the large excess of bacteria which in almost all cases the snow layer harbored, over transparent and sparsely bubbly ice, would render imperative the avoidance of snow-ice for any but cooling purposes. Still, it was not to be forgotten that perfectly clear ice might contain very large number of living bacteria.

A variety of devices could be adopted in the use of ice for cooling drinking-water so as to avoid placing it in the water itself; or recourse might be had to artificial ice made from pure water, which, as abundant experience had shown, could be furnished at a cost not greatly exceeding that at which the natural ice was furnished. This artificial freezing of pure water was already done in some of the European cities in which the natural ice contains large bacterial impurities.

In this series of pioneer studies on the bacterial impurities of ice, Dr. Prudden said he would rest content with having by experimental means endeavored

to give definiteness and precision, not only to the problem in general, but to the detailed questions which arise in connection with the ice-supply of one particular town. It would appear, he thought, that we now know with tolerable certainty just what series of questions are to be answered, and what investigations made, in order to decide upon the safety of any given source of ice-supply. But these detailed investigations could only be made under the sanction and direction of the public authorities. It was unfortunate that a certain amount of perhaps entirely unjust opprobrium was now attached to all the Hudson River ice, when it should perhaps belong only to that harvested in particular regions. It would seem, therefore, that it is greatly to the interest of the ice companies, as well as the public, that the State Health Authorities should take the matter of systematic examination of the Hudson River ice-fields at once in charge.

In conclusion, he said he wished to express his sincere hope that this study might not be looked upon in a sensational light, nor regarded as a polemic against ice companies or dealers, or against the free and wonted use of ice. A most thorough personal examination of the ice harvesting and the purpose and practice of the more responsible dealers led to no other conclusion than that they were as desirous as could be reasonably expected of them to furnish a clean product to the market; and so far as the current knowledge hitherto had gone, had apparently done so. But, in the clear light which the new methods of science throw upon the whole subject of important ice impurities, it seemed necessary that a sweeping reform in some respects should speedily be brought about. This long series of studies had been carried out in the hope that in the light of its results the rapidly-developing discipline of Preventive Medicine might find a plan of curtailment in some degree the number of annual victims to preventable disease.

### Recent Literature.

*A Manual of Diseases of the Nervous System.* By W. R. GOWERS, M.D., F.R.C.P. Volume I. Diseases of the Spinal Cord and Nerves. 8vo. pp. xv. 463. With 171 illustrations. Philadelphia: P. Blakiston, Son & Co. 1886.

The many readers of Dr. Gowers' two books on the brain and spinal cord have been looking forward with eagerness to his long promised work on diseases of the nervous system, and the volume before us will more than repay their expectations. The author's aim has been "to give an account of diseases of the nervous system sufficiently concise . . . yet adequate in its outline," and the result is decidedly a success.

The introductory chapter on classification, however, is not calculated to add to the author's reputation as a pathologist. Considering the ordinary classification into organic and functional diseases inadequate, the author adds two other classes—"structural," where the changes can be seen only or chiefly by the microscope, and "nutritional," where the changes are molecular and invisible. Sclerosis is given as the type of the former, and general paralysis, paralysis agitans, and chorea as types of the latter. Fortunately the

author does not obtrude this classification upon us in the rest of the book, so that it does but little harm.

General symptomatology is next discussed clearly and briefly, sections being given to disturbances of motion, sensation and nutrition, reflex action, and electrical phenomena. Under tendon-reflex, or "myotatic contraction," the author repeats his former statements that these contractions are not reflex, but that probably passive tension of a muscle "excites, by a reflex influence, a state of extreme irritability to local stimulation." A brief but clear account of electrical reactions is given here as an introduction to a full discussion of the subject in the section on diseases of the nerves. This introductory section is concluded by an admirable chapter on the action of the different muscles and the effects of paralysis of them, based largely on Duchenne's "*Physiologie des Mouvements*," and illustrated by a number of outline drawings. Such a chapter is a novelty, and taken in conjunction with the detailed accounts of the functions of the peripheral nerves and the different segments of the cord, which are given later, renders the diagnosis of any form of spinal or peripheral paralysis a comparatively simple matter.

The section on diseases of the nerves shows the enormous advance made in our knowledge of the subject in the last five years. It is certainly a surprise, for neuralgia and spasm are not touched upon, while sixty pages are devoted to the structural diseases of the nerves,—injury, neuritis, and neuroma. The pathology of nerve injury and neuritis is based almost exclusively upon the work of Ranvier and Pitrès and Vaillard, the work of Neumann, Mayor, and others, being neglected. The subject, however, is presented clearly and in sufficient detail for the student. Sciatica is, with much reason, given a place among the neuritides, rather than among the neuralgias. An excellent chapter on multiple neuritis in its various forms, including beri-beri and leprosy neuritis, concludes this section.

The third part is devoted to the diseases of the spinal cord, and occupies the remaining 350 pages of the book. The author's own investigations in regard to secondary degeneration enable him to speak from experience as to the anatomy of the cord, and the course of the different systems of fibres, but the work of others is by no means disregarded, and we have one of the fullest and clearest chapters on the anatomy of the cord to be found in any recent work. As an example of the admirable simplicity of some of his explanations for the student we would call attention to the diagram of an element of the motor tract on page 116, where we see the motor fibre, apart from the complexity and confusion of anatomical detail, set forth so plainly that the stupidest student can grasp the idea of it, and comprehend the localization of its diseases. The chapter on anatomy is followed by equally good chapters on the functions of the cord, and the general symptomatology of its diseases, and then the different diseases are considered in turn.

We must thank Dr. Gowers for having been the first, since Leyden, to devote a section to the diseases of the vertebral column, for, as he himself says, the work would be incomplete without "some mention of the morbid states that begin" in the spine itself. These morbid states, he thinks, give rise to symptoms due not simply to pressure upon the cord, but to a true myelitis set up by the neighboring morbid process. In the section on diseases of the meninges he still holds

to a belief in a primary chronic leptomeningitis. The diseases of the cord itself are divided broadly into two great classes—inflammatory processes and degenerative processes—the inflammatory character of tabes and progressive muscular atrophy being denied. With this latter disease are also considered, for convenience, pseudo-hypertrophic muscular paralysis and the various forms of myopathic atrophy. We have not space to dwell upon this portion of the work, but we must call attention to two important statements. Most of us, although admitting with Strümpell the pathological identity of progressive muscular atrophy and amyotrophic lateral sclerosis, have still held to a clinical and anatomical distinction between the two, but Dr. Gowers not only denies the definite clinical distinction, but holds to the anatomical identity of the two diseases. "I have not yet met," he says, "with a single case of progressive muscular atrophy in which the pyramidal tracts were unaffected, and I am not aware that any case of the kind has been published since attention was directed to the affections of these tracts by the researches of Charcot." His prognosis in tabes, too, is much more hopeful than that given by most writers. "It is not uniformly bad. Arrest is frequent, considerable improvement is not rare, but perfect recovery scarcely ever takes place." In his description of the various diseases he is always clear and well up with the latest researches, his articles on pathology are admirably complete, his symptomatology and diagnosis are excellent, and in treatment he is wisely sceptical. As an example of this we would refer to his remarks upon the value of electricity in infantile paralysis, on page 270.

A word must be said for the illustrations. The author has spared us the old friends that have done duty for twenty years or more, and given us a large selection drawn chiefly from his own cases. They all of them show admirably what the author wishes to call attention to, and the various sections of the nerves and cord look like the reality, although in some the process does not fully represent the character of the tissue.

We shall look for the second volume of this work with great interest, for, if it maintains the standard of this one, we shall have a work that may be considered the best treatise on diseases of the nervous system in the English language.

*Elements of Static Electricity.* By PHILIP ATKINSON, A.M., Ph.D. pp. 227. W. J. Johnston, publisher. 1887.

This elementary treatise on static or frictional electricity is very concise, and is clearly written. It has no practical application to medical treatment, but would prove of value to any medical practitioner who may desire to use this form of electricity in diseases in which it may be indicated. In our opinion these indications are but little understood and would probably be restricted to certain forms of hysteria, in which sudden electrical shocks might produce favorable moral effects.

The explanation of the physical causes and effects of lightning and thunder is very graphic, and well conceived.

—Dr. John S. Billings has been appointed Lecturer on the History of Medicine in Harvard University for the current year.

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THE MOVEMENT TOWARDS PHYSICAL  
CULTURE.

We cannot allow the opportunity to pass, which is presented by the lecture of Professor Hartwell, to be found in this and the preceding number of the JOURNAL, without again calling the attention of our readers to the importance of the subject of physical training, especially as a constituent part of every properly-designed educational system. Professor Hartwell's lecture brings out with especial emphasis one most important point, namely, the relation between muscular exercise and central nervous activity. It has been much the custom to speak of physical exercise as a useful addendum or supplement to mental training, but it is time educators were shown, what they can best learn through the medical profession, namely, that muscle-training is brain-culture. The phenomena accompanying a given muscular act are not confined to the renewal of tissue in the muscle contracted, but include, as well, the original motor impulse of the central nervous organ, the action of the coördinating centre, and the transmission of the impulse through the nervous trunks to the motorial end-plates, as well as the afferent impulse to the centre of the muscular sense, conveying information of the work that has been done.

A training merely by books, a training simply through eye and ear, must leave such parts of the brain undeveloped as are connected with the motor and sensory centres of the great muscular systems of the body. The manual training schools which have come into vogue of late years are thus seen to be something more than mere utilitarian schemes. They give an actual mental education. The old-fashioned apprenticeships, with their seven years of precise manual training, were, perhaps, after all, not so immeasurably inferior as educational methods, in the broad sense of the term, to the common school system of the present day.

The present methods of teaching chemistry and physics recognize the hand as a most important channel through which to reach the brain, for the best teachers

are aware that it is not through seeing certain experiments performed, least of all, through reading of them in a text-book, that the pupil gets the most good. The personal use of instruments of precision involving, primarily, the tactile sense, is worth more as an educational agency than a fluent repetition of all the laws of physics.

Handcraft is a good path to rede-craft. Indeed, the very history of the words *craft* and *cunning*, before they acquired their modern sinister meaning, shows that muscular skill and strength led to mental power. As some one, we believe Carlyle, has said, the cunning man is the *canning* man — the man that *can*, the true *könig*, or king of men.

Though we have not the pleasure of noting, as yet, any serious and general attempt to incorporate physical training into our public school system, there are not wanting tokens that the public mind is awaking to the importance of the subject, and that a sentiment is forming, which will, sooner or later, make itself felt on boards of public education. A movement begun in Boston, this spring, towards the formation of an athletic club, has met with a most enthusiastic reception. Before a situation has been even decided upon for a building, the limit of membership is already full, a thousand names having been enrolled.

The alumni of Amherst College recently held a meeting in New York, at which it was decided to establish a professorship of physical culture in that college, in memory of Henry Ward Beecher. The endowment of \$50,000 is now, we understand, in process of being raised for that purpose.

During the past winter, a gymnasium for women has been opened in Boston, which is probably superior to anything of the kind in the United States. The gymnasium has existed here for nine years, but has been hitherto cramped by insufficient facilities, until its friends erected the present commodious structure, where about 350 women and children are now regularly instructed in the best methods of physical culture.

A hall 96 x 63 feet, and 34 feet high, well lighted and ventilated, is furnished with all the requirements for light, and many for heavier gymnastics; while fifty-two dressing-rooms, each with a bowl set above an asphalt floor, give the opportunity so important for sponging and rubbing after the exercise. To see a class of fifty women, in easy-fitting gymnastic habit, going through the dumb-bell and chest-weight drill, to musical accompaniment, and ending, perchance, with a few laps on the patent running track, is a sight that once would have been a surprise. But this work is going on steadily and quietly, and with results which are already apparent to the friends and physicians of some of the pupils, and whose good effects are to be confidently looked for in the coming generation of children.

A particularly interesting feature of this work is the establishment of a normal class for the training of teachers of gymnastics for women and children. That there is to be a call for such teachers seems very evi-

dent, and the work opens a new field for female labor, which, in the present overcrowded state of many other callings for self-supporting women, will probably attract those whose tastes lie in this direction. The importance of skilled supervision of all persons, male, and perhaps we may add, especially female, who undertake to work in regularly-equipped gymnasia, is sufficiently obvious. But it is also desirable that such instruction may be given to women, especially those who are already teachers of other branches in the schools, so that they may be able to teach *con amore*, "hall gymnastics" so soon as the time is ripe for the introduction of such exercises into the public schools. In Germany, a normal course in physical culture is required of school-teachers, as a prerequisite to receiving their commissions, and it is only as taught by the regular teachers that a system of physical exercise can ever be successful in the schools.

A collateral fact which almost escaped our attention but which illustrates one phase of the athletic *renaissance*, is the growing favor of "slugging" both as a profession, and a means of elegant spectacular recreation among the favored sons of fortune. A recent bloody and highly successful "mill" in the neighborhood of Boston was, if the uninvited but ubiquitous newspaper reporter is to be believed, largely officered by men not unknown to the most esoteric circles of the social, professional, and (shall we add?) the literary world. While the recent death of a city father who won his early triumphs in the prize-ring and who did not disdain to put on the gloves for money and fame, even after he had attained the acme of his municipal aggrandizement, seems to remind us of our likeness to ancient Greece, when to win in the Olympic games was the shortest road to the highest civic honors. It is indeed to the wearer of the *cæstus* that such preferment is now chiefly reserved, and the hero after receiving the homage of his countrymen during life, has a mighty funeral while the "championship belt" in choicest exotics is laid upon his bier.

#### IS ALL MATTER ENDOWED WITH A SENSE OF FEELING?

PROF. PREYER, of Jena, has published in the *Deutsche Rundschau*, an article, reproduced in the *Popular Science Monthly*, which restates the view, advocated by Heckel, and by Lewes, that there is no hard and fast line between the sentience of the higher animals, and the *sensitiveness* which inorganic substances (for example, the photographer's plate) and plants manifest. "It is," he says, "in accordance with facts to assume that there is no well-developed dividing line between beings capable and things incapable of feeling, but that all matter is endowed with a certain *sense of feeling*, which, however, only with a definite and an extremely complex arrangement and vibration of the molecules, will develop into *feeling*."

"The simple bodies, the dead elements, therefore, although for the most part very easily changed through slight influences, are, in spite of their dim sense of feeling, not able to feel perceptibly (*sic*), but as soon as they become part of the ganglionic cell of the brain, or only of the living protoplasm (through assimilation of food), they, combined with others, will by indescribably complex vibrations, cause feeling to arise whenever an impression is made on them."

"Every physiological expression must, above all, be in perfect accord with morphological, mechanical and chemical facts; on that all physiologists lay the greatest stress, but I do not understand why, regardless of physiological facts, morphologists, physicists, and chemists should be allowed to declare their explanations and principles to be the only true ones, or even the only possible ones. It has been demonstrated that matter must have other fundamental properties besides those ascribed to it by physicists and chemists. The axiom of mechanics, 'Matter is dead!' will soon become obsolete, since a sense of feeling is inherent in all matter. . . . No one can hear a single leaflet tremble in the wind, but during a storm the roaring of the forest caused by many leaves rustling together may reach awe-inspiring power. Similarly, each molecule of matter may feel imperceptibly little, when vibrating by itself, while, together with many particles feeling likewise imperceptibly, it may coöperate in manifesting feeling, which, like lightning, arises and vanishes."

"Through this conception, through acknowledging evolution and the sense of feeling, the whole of Nature may be brought into harmonious connection."

The above citations seem to us only another desperate and not very successful attempt to construct the psychological out of the physiological and material. With all due respect to Prof. Preyer, we are unable to understand what it is to have a "sense of feeling" without being able to "feel" or what it is to "feel imperceptibly." We cannot, however, forbear sympathizing with every effort to bring "the whole of Nature into harmonious connection."

#### FLUID EXTRACTS vs. TINCTURES.

DR. H. S. LOTT in the *Atlanta Medical Journal* has called attention to the relative superiority of fluid extracts over tinctures. As defined in the "United States Pharmacopæia," "fluid extracts are permanent concentrated solutions of vegetable drugs, made of such strength that one fluid ounce contains the medicinal principles and represents the virtues of one troy ounce of the drug." One minim of the fluid extract is believed to be equal in strength and virtue to one grain of the drug, while being at the same time freed in great measure from the inert principles of the crude drug. It cannot be said that tinctures are so convenient of administration, or so well represent the active properties of the drug.

"Tinctures," the writer says, "are alcoholic solutions of medicinal substances as such, and by virtue of the necessarily various processes by which they are obtained, they cannot be made of uniform strength—uniform in the sense which we, as prescribing physicians, would have them. For instance, one tincture will represent twenty per cent. by weight of the strength of the drug, and another will only represent five per cent. And why must it be the case? Because the nature of the plants has willed it so. One plant holds its active medicinal principles in a readily soluble state. As soon as the alcoholic or ethereal menstruum is poured upon the powdered drug, it yields up its active virtues and only a residuum of inert substance is left, while another plant contains a much smaller per cent. of the active principles, or becomes exhausted by the menstruum less readily. Thus you see how utterly impossible it is for us to have, in accordance with the justly fixed laws of the pharmacopœia, our tinctures of a uniform strength, representing relatively minim for grain; whereas, the same facts which militate against the use of tinctures recommend fluid extracts as possessing advantages which are beyond question, and the nature of these facts is such that their truth will be at once recognized by all intelligent and practical observers.

"In the manufacture of fluid extracts—and in this I have the high authority of Parke, Davis & Co., and E. R. Squibb—the relative connection between the drug and the menstruum is considered well, and demonstrated by experiment, before the process of exhaustion is begun. Such menstruum is selected as will most thoroughly exhaust the drug of its active medicinal principles, and having obtained these, free from inert and deleterious substances, will preserve them in a pure and healthy state for an indefinite space of time."

Dr. Lott claims that fluid extracts, while just as easily administered as tinctures (a smaller dose only being required), may be rendered quite as palatable by giving them in glycerine and water as a menstruum; moreover, they are more reliable. He refers to the case of ergot of rye, and asks: "What physician of the present day who has kept pace with his profession, would think of administering the tincture of ergot as oxytotic, or to relative congestion of the spinal cord, or pulmonary hæmorrhage, when long experience and observation have proven so conclusively the superior value of the fluid extract, that the tincture has become almost entirely obsolete?"

#### MEDICAL NOTES.

—The *Medical and Surgical Reporter* quotes Professor Bartholow as saying "that the popular poison, 'Rough on Rats,' owes its efficacy to phosphorus. Being an oily or fatty preparation, when taken into the stomach, its action as a poison is very rapid." The truth of the statement contained in the last clause, will be generally admitted, but either our contemporary or its alleged authority is at fault in ascribing the deadly effects of the poison to phosphorus. The lethal ingredient is white arsenic.

—Dr. York, of "Druidic" fame, having found the atmosphere of Maine too chilling for him by reason of the harsh attitude of the law, is said to be about to join the great army of the oppressed, who come to the welcoming arms of Massachusetts. The *Leviathan Gazette* sends after him this feeling farewell and *viaticum*:

So Dr. York will lie him to the greenhorns and patients new of Boston town. Dr. York evidently acts on the principle recorded in the diary of the once famous Tichborne claimant: "Some has money and some has brains; them that has money

was made for them that has brains." This reads just like a Druidic gem of thought and we present it to the chief bard of all the Gorsedhs with our parting blessing. Go forth, thou prince of quacks, thou inimitable nineteenth-century Cagliostro and bardic wonder, go forth doctoring and to doctor, electrifying and to electrify. Physic the fools to the top of their bent. Light up the darkness of Boston and the Massachusetts wilderness with the gospel according to St. Moran, and may thy trusty sword of Bunker Hill flash like a flaming meteor before the dazzled eyes of newspaper reporters and all the imps of darkness who would harm thee, sending them panic stricken to their lairs. Go, noble Gorsedh; go. Stay not upon the order of thy going, but go at once, and may the Druidic University of noble Gorsedhs of Maine go with thee.

—Small-pox is reported as quite active in Mexico, and cholera exists in Catania, Sicily, and Pesth, Austria.

—The annual commencement of the Medico-Chirurgical College of Philadelphia takes place at Association Hall, in that city, Thursday evening, April 7, 1887, at eight o'clock.

—Mrs. Mary Manning died in Wakefield, Mass., March 27th, aged 105 years. She was born in Dublin, Ire., in 1782, and came to this country about thirty years ago, and has lived in that town for the past twenty years. She retained her eyesight and hearing to a remarkable degree, but had been childless for a few years past.

—Two prominent physicians of Cincinnati, one of whom, Dr. R. B. Davy, is the president of the Cincinnati Medical Society, have purchased a piece of property known as Marilou Park, containing one hundred and twenty-nine acres of land, in the suburbs of San Diego, California. It is to be fitted up as a sanitarium for the benefit of invalids not able to profit under ordinary hotel life. In addition to a mansion house, there are to be a number of separate villas to contain from two to six rooms each, scattered about the park.

—The Governor of Maine has vetoed a bill recently passed by the Legislature of that State, entitled, "An Act to Regulate the Practice of Medicine," one of the provisions of which required the registration of practitioners of medicine. The grounds of the veto we have not yet seen stated; it was, in fact, supposed for a time that the bill had become law.

—The work of the General Medical Council, of England, seems to be measurable by linear measure rather than weight. It was stated by Dr. Quain, chairman of the Finance Committee, that, taken altogether, the expense of the Council averages £1 per minute. Even this statement did not have the desired effect of checking the irrelevant loquacity of sundry members, whose aim in life would seem to be to raise and prolong a futile discussion on points of order or disorder. The more the talk the larger the fees.

—The *Philadelphia Medical Times* says that a prominent surgeon of that city lost a good patient, a spinster, the very pattern of propriety, by writing a prescription for "Fluid Ext. Rham. Cat." After reading the prescription, she said nothing could induce her to swallow such a remedy, and that the doctor ought to be ashamed of himself for ordering it. He

is now a sadder and a wiser man, and keeps on the safe side by prescribing castor oil for his hysterical patients.

— It will be remembered that, some months ago, a party of excursionists went on a steamer from Glasgow to witness the effect of certain large blasting operations, which were to take place on Loch Fyne. In the blast, six and one-half tons of gunpowder were exploded; and after it was over, the excursionists went on shore to look at the effect of the shock. In a short time many of them were seized with faintness; six of them died almost immediately, one died shortly after, and five were made very sick, but eventually recovered. The results of the scientific interest which followed this sad affair have been published, and have brought out the fact that the mischief was probably due to carbonic oxide, of which it was calculated 468 pounds could be generated by an explosion of the quantity of gunpowder named above, an amount which, at the ordinary temperature and pressure, would occupy a space of 6,333 cubic feet. This would be sufficient to vitiate one hundred times as many cubic feet of air. But, in the presence of carbonic anhydride, of which the explosion would generate 3,575 pounds, it would render 1,266,000 cubic feet of air fatal to human life. The symptoms of those who suffered or died agreed with those attributed to poisoning by carbonic anhydride, and it is said that the blood of one of the deceased was so liquified after death that it flowed through the coffin.

#### BOSTON.

— At the banquet given to Mr. Theodore Metcalf by the Boston Druggists Association, mention of which was made in our last issue, Dr. Oliver Wendell Holmes made the following remarks, in responding for the medical profession, which were received with much enthusiasm, and will meet with appreciation from our readers notwithstanding the *quasi* endorsement of prescribing across the counter:

I consider it a very great privilege, gentlemen, to be allowed to take part in this tribute to my old friend and my old neighbor; for none of you, perhaps, but he and I and one or two others, may possibly recollect the time when he and I were neighbors. I hung out my modest sign under the room almost directly over his shop; and there I was ready to receive the smallest favors as he was the smallest favors. [Great laughter and applause.] There never was a more convenient and happy arrangement than that which brought us together. I wrote my prescriptions up-stairs; the patient went down, and it was filled out down-stairs. We could not always be fortunate. We deserved success, but we could not always command it. The excellent Martin Smith, the revered sexton of the churchyard opposite, was always at hand to finish the work upon which we had entered.

In thinking what I could say which would interest this assembly, I thought a few recollections of some of the older apothecaries might be agreeable to you, as they come up before me in fragrant succession by the drugs which filled their old-fashioned and not over-erated establishments. I will mention their names one after the other. Ephraim Elliot, if I recollect, was one of the oldest—a little gentleman, active, attending himself to everything, conscientious and scrupulous. I have seriously doubted whether he ever killed a patient, except with a prescription behind him to back him, in the course of his long and estimable life.

Charles White rises before me—tall, swarthy, soft-spoken, with a long, somewhat elongated son, who may be here now, perhaps. I cannot say whether he is among the living or not. I remember that my good friend, Dr. Hooper, spoke of him as "carrying his father's 'liniments' in his countenance." [Loud laughter and applause.]

Thomas Farrington is in my mind, an easy recollection, as creeping about under the Tremont House. Of him I remember comparatively little except that he had the air of a man that was getting every year more and more venerable and thinking harder and harder, in the duties he had to perform.

Daniel Henchman, the Methuselah of Cambridge Street, who I thought must have been embalmed while living, so did he outlast all of his contemporaries.

Joseph T. Brown [applause], who was once my landlord. [Laughter.] In a professional capacity, I had rooms over him, and I will say of him before this assembly that he was the best and kindest landlord that ever breathed [applause], and I was the worst and most intolerable tenant that ever occupied a chamber. How he endured me in the pursuit of my honest vocation, which was one not flattering to my enterprise, I never could imagine. His name is Brown, but it should have been Green, for his spring is eternal. [Laughter and applause.]

This, I believe, closes the list of those old, ancient apothecaries. And now I wish to say one thing more, which, if any member of my own profession is here—and there are several—I hope he will pardon me for saying. I have always had a great opinion of the medical advice of apothecaries. [Laughter and applause.] The truth is, they put up the prescriptions of all the best physicians in the place in which they live, and they have the very cream of all their wisdom at their fingers' ends. So, when I have myself been suffering from any slight bodily inconvenience, I am ashamed to say—or ought to be, perhaps—instead of going to a professional brother, I have quietly crept into the back-room and asked Mr. Metcalf what such and such a doctor was in the habit of prescribing. [Great laughter and applause.] And therefore, having made this confession, in order to place myself, in a certain sense, right with my brother, I shall only say that it will give me great pleasure to join you in drinking the health of my Doctor Metcalf. [Loud and long continued applause.]

— On a death-certificate lately received by the Board of Health, the cause of death given by the physician signing it was: "Over-study induced by the Boston public schools' system of cramming."

— Another death from "Rough on Rats" occurred at the City Hospital last week, a man having taken four-fifths of a box of that commodity, and dying twenty-four hours afterwards from acute arsenical poisoning.

#### NEW YORK.

— Dr. Wm. T. Lusk successfully performed the Cæsarean section at Bellevue Hospital on the 23d of March; saving both the mother and child.

— Dr. D. B. St. John Roosa presided at the annual dinner of the New York Post-Graduate Medical School and Hospital, which was held at the Hotel Brunswick on the evening of April 4th, and among the speakers were Gen. Wm. T. Sherman and Dr. Wm. A. Hammond.

— The graduating exercises of the New York Hospital Training School for Nurses took place at the hospital March 31st, when diplomas were given to nine graduates. Miss Bird delivered the valedictory address, in the course of which she spoke of the various ideas of a nurse presented by Evangeline, Lucille, and Sarah Gamp.

— It is said that a large number of young calves, from one hour to three days old, are being slaughtered

in Herkimer and Oneida counties and sent to New York, where they are put up as "canned chicken." Many tons of this "bob-veal" have already been seized and condemned this season by the sanitary authorities; but doubtless a considerable amount is brought into the city which escapes their notice.

— The limited express train which arrived from Boston on the night of March 30th, is said to have been the first train ever run in this country without a possible source of fire in every car. The Martin steam-heating apparatus, which is now being tested on the New York Central and Hudson River Railroad, stood the trial successfully for the two hundred and forty mile run, and by means of the Julian storage system the cars were well lighted by electricity, both inside and on the platform.

— The Kings County Medical Association which has recently been organized in affiliation with the New York State and American Medical Associations held its first stated meeting at Remson Hall, Brooklyn, on Tuesday evening, April 5th. The subject considered was Oil of Wintergreen as a Therapeutic Agent, and the discussion was opened by a paper from Dr. E. R. Squibb. In accordance with a provision of the by-laws the monthly meetings are to be adjourned by limitation at 10 o'clock for refreshments and social intercourse.

### Miscellany.

#### ANTIFEBRIN.

The *Therapeutic Gazette* quotes from the *Deutsche Medizinische Zeitung* of December 23, 1887, the conclusions of Eisenhart regarding antifebrin, which he has used in Ziemssen's clinic in Munich: The number of cases observed was thirty. The doses given were from four to eight grains, given in powder and solution, by rectal and anal use. In a case of erysipelas a dose of eight grains was vomited when given by the mouth; when given by injection it was retained.

In general, the drug was well borne; half of the patients had a profuse perspiration following, and an exanthem occurred in one case.

Cases of typhoid, treated with antifebrin, had an easy course. The influence of the drug was generally manifested two hours after it had been taken. After a dose of four grains the temperature sank six times from one-tenth to one degree, thirteen times from one to two degrees, fifteen times from two to three degrees, six times from three to four degrees, and three times more than four degrees. After a dose of eight grains a depression of temperature of one-tenth to one degree occurred three times; from two to three degrees, seven times; from three to four degrees, twice; from three to more than four degrees, twice. In a few cases only was this effect wanting.

In comparison with antipyrin it was found that one-fourth as much antifebrin as antipyrin was required for a given effect. The conclusions of the observer were, that in doses of four to eight grains antifebrin was a very valuable febrifuge, reasonably certain of success.

#### NINE HOURS OF ARTIFICIAL RESPIRATION.

THE *Medical Press and Circular* publishes reports from Ceylon containing an interesting description of recovery of consciousness of the taxidermist of the Victoria Museum who was bitten by a cobra, which he thought harmless, from previous extraction of the poison bag. For a few moments after the bite he took no heed of it, but pain and nausea were soon set up. Carbolic acid was then applied, ligatures were bound round the arm, an incision was made at the bite, and the blood of the arm was wholly removed. Various antidotes were used, but the unfortunate man lost the power of speech, and soon every muscle became paralyzed, and respiration ceased. Artificial respiration was then resorted to, and this operation was unceasingly continued for nine hours, when at last the patient made an attempt to breathe, and soon regained consciousness enough to make his wants known. He steadily improved until Friday, the accident having taken place on Wednesday, and then astonished those around him by stating he was conscious of all that had been taking place, but was unable to make his feelings known, not having the power over a single muscle. It would seem that the poison paralyzed the nerves of motion, but not those of feeling, for he could see and hear and feel, although the attending physician, even by touching the eyeball, could get no response either of feeling or consciousness. His partial recovery was, however, followed by a high fever and inflammation of the lungs, and he died, perfectly conscious, on the following Sunday.

#### ON THE MEDICATION OF NERVES.

DR. LEONARD CORNING (*New York Medical Monthly*), has brought to the notice of the profession a new method of treating neuralgias and other derangements of the peripheral nervous system. It consists in copious deep injections over the affected nerve of a four per cent. solution of hydrochlorate of cocaine, incarcerating the medicament by the application of a tourniquet above the point of injection. "In sciatica the tourniquet should be placed as high up as possible, so as to interrupt the circulation in the crural artery above the point of injection." In the first case reported by Dr. Corning, after the removal of the tourniquet there was no return of pain for four days; the treatment was again resorted to; the periods of exemption became longer and longer until the pain finally left the patient for good. Two other cases of obstinate sciatica have yielded to the same medication. Dr. Corning's conclusions are as follows:

"(1) That this method of subjecting the nerve to the prolonged chemical action of an adjacent medicament possesses advantages of a theoretical and practical nature which are not easily overestimated.

"(2) That this prolonged medication of the nerve, by incarceration of the medicament, is incomparably more advantageous than the ancient expedient of simple injection, without incarceration by suspension of the circulation. In the former case the medicament is held in contact with the nerve for a period of time, which may be prolonged at the discretion of the physician. In the latter case it is a matter of extreme doubt whether the nerve is influenced to any appreciable extent, since the medicinal solution is at once removed by the general circulation, and has, therefore, no time to induce the requisite chemical changes in the nerve filaments.

"(3) Solutions of low percentage (one-half per cent. or one-fourth per cent.) should be employed for prolonged medication of nerves, as it is thus possible to inject large quantities of the medicament without danger of constitutional symptoms. It is, moreover, clear that the prolonged presence of this large amount of fluid in the neighborhood of the nerve-stem must inevitably,

through the operation of imbibition, profoundly affect the nervous filaments.

"(4) The medicated fluid should be injected as near the affected nerve as possible; but care should be exercised not to wound the latter. These profound injections may be accomplished without pain by injecting a small quantity of the anæsthetic before the point of the needle, as the latter is propelled into the tissues.

"(5) The treatment by prolonged medication is without danger, and therefore superior to nerve-stretching by the surgical method, which in point of reliability leaves much to be desired.

"(6) Cocaine is only one of many fluids which may prove useful when applied according to this method.

"These, then, are some of the conclusions which have forced themselves upon me, and I confidently trust that the method of treatment above detailed may continue to yield rich results in the hands of my colleagues in the profession."

Since the publication of this article, Dr. Corning has experimented farther with this method, improving his appliances for the production of prolonged local anæsthesia; the results are recorded in the *Medical Record*, March 19, 1887.

### Correspondence.

#### GAS AND KEROSENE STOVES.

BOSTON, April 1, 1887.

MR. EDITOR.—The only answer to Dr. Lincoln<sup>1</sup> is: have a tunnel to your gas or kerosene stove leading to a chimney or out to the open air, to carry off the vapor or gaseous products of combustion, as in the case of any other stove or fireplace.

Yours truly,

EXPERTUS.

#### EXTRACTS FROM LETTERS FROM DR. WILLARD PARKER, OF NEW YORK, TO DR. EDWARD JARVIS, OF DORCHESTER, 1828-1881.

THE following extracts are taken from three letters written by the late Dr. Willard Parker, of New York, to the late Dr. Edward Jarvis, of Dorchester. The first two letters were written in 1828, when Dr. Parker was assistant at the Chelsea Marine Hospital, and the last letter fifty-one years later, from New York. The correspondence between these friends and classmates was kept up through all these years, and these letters were selected by Dr. James R. Chadwick from a large number given by Dr. Jarvis to the Boston Medical Library Association:

CHELSEA HOSPITAL, May 18, 1828.

I go to the General Hospital about once a week to witness operations. I visit the Eye and Ear Infirmary two or three times a week. A boat passes from near the door of the hospital for Boston every hour in the day, hence I have things as I would. You wished me to give you the course of my reading. I will mention the books in order: "Wistar on the Bones," "Cheselden on Bones and Muscles," "Richerand's Physiology," "Haller's Physiology," "Bigelow's Sequel," "Thacher's Dispensatory," "Thomas' Practice," "United States Pharmacopœia," "Dorsey's Surgery," 2 vols., "Benj. Bell's Treatise on Strictures," "Bell on Gonorrhœa and Lues Venerea," "Bell on the Muscles," while dissecting; "Hamilton's Midwifery," "Underwood on Diseases of Children," and am now reading, "Hunter on the Blood, Inflammation, etc.," and "Boyer's Works" in French. I take the Philadelphia journals and that affords me much matter for reading and thought. I read Good, as cases occur. I am certain I derive but little advantage from reading unless I see the practical utility of it. So, too, in reading of the muscles, without dissection, it does no good. I intend purchasing "Bichat" in French, if I can find it. I have read Abernethy's books and value them much in regard to regimen. I intend reading upon the eyes and ears now while I go to the infirmary. You

mention my situation for Russell; I shall retain it until I can find one that will afford me greater advantages in regard to my profession. (How I shall manage during the lectures I have not yet determined). I will have all the advantages for improvement in my profession this country affords. I can furnish myself with means. Dr. Dalton and others advise me by all means to stop here yet, as I cannot better myself, since I have the advantages of *Boston institutions*. My situation was bargained away last fall to your doctor's cousin; he is to graduate in August, at Brunswick, he will then enter his name with Dr. Townsend, and study to fit himself to succeed me. If Russell is determined to acquire a thorough knowledge of the profession, and not mind trifles he might, I think, obtain a good situation here; he would have six or eight hours in a day to study, board, and some pay. But I should not like a classmate in the situation while I remain; but the situation is one, that I should certainly be willing to take for a while, as all its duties belong to the profession.

Your chance is good for reading, but reading without practice you will find to be the shadow and not the reality. I hope to see you in Boston in June, when the good man, Dr. Shattuck, reads his dissertation. Why does not Russell study divinity? The call for ministry is great, and the expenses at commencement are very small, I hear. I should advise him to that unless he actually will love medicine as a profession. I would most cheerfully do all in my power to promote his interest, if he determines on medicine; if I can help him here I will. But I shall not relinquish my situation until about the last six months of my pupillage, unless I can find a better; I would exchange it now for none I know of. I think I shall stop a while with Dr. Shattuck when I leave here; if I do not I shall go into one of the dispensaries, or with Dr. Warren if I can.

WILLARD PARKER.

CHELSEA, July 10, 1828.

There has been nothing lately at the General Hospital. At this hospital there are about thirty patients, none very sick; have had no death; since you were here, there have been several very interesting cases; last week the doctor performed here Physic's operation for producing union between the fractured parts of one of the bones of the arm; it was the radius. The accident happened about three months since at sea, and the man, when he came into the house, had a *false joint*. Jackson,<sup>2</sup> Gould<sup>2</sup> and myself dispatched *id corpus quod vidisti*. Jackson is a very excellent anatomist; he gave us much information. I expect he is decidedly first in the Boston School, or Harvard University. You wished for my advice in regard to your accompanying Dr. Lincoln this winter, or rather fall, to Burlington. I should think the opportunity of being with him in the dissecting room and preparing his subjects for demonstration, would be one well worth embracing. I mentioned the matter to Dr. Townsend, he thought you would do well to accompany Dr. Lincoln, and then made some remarks on the importance of anatomical dissections, as if to give me a gentle hint not to spare the knife. His remarks seemed to say it was downright *quackery* in a man to pretend to understand *pathology* and to *prescribe*, if he was not acquainted with the mechanism of the parts constituting the human frame. I saw Dyer since I received your letter, asked his opinion in regard to your going to Burlington, he thought with me.

Bartlett, of Plymouth, is coming to Shattuck's in the fall. I would enter my name, if I were you, before him, and then you will be entitled to all the privileges of priority, which sometimes are not small. If I were situated as you are I should certainly go to Burlington, if I could be certain that I should have an opportunity to ply the knife; for myself, I find it folly to read alone and neglect all other things. If we have the principles of our profession well grounded in the mind, and are *practically* acquainted with anatomy, we shall find but little difficulty in the practice of medicine, I believe. Suppose a man to read two

<sup>1</sup> Dr. J. B. S. Jackson.

<sup>2</sup> Dr. A. A. Gould.

<sup>1</sup> See last number of Journal, page 319.

or three years on a complicated piece of machinery, and at the end of this time, the piece should be brought to him for repairing, would he, never having seen anything of the kind before, be competent to the task? I know I should not, for I have made the experiment. About three weeks ago a case of midwifery fell into my hands to my great joy, the woman was young, seventeen, her labor was tedious, it being her first child. I thought I should feel myself quite at home in the affray (having recently read a work upon that branch of our profession) but upon making examination to ascertain the presentation, instead of finding things distinct, as I had fancied in reading, I could think of nothing to which to liken the sensation produced to the hand, but that perceived on thrusting it into a mass of *soft soap*: this may seem ridiculous, but it is true. I believe we shall never regret the time spent in the dissecting room, if it be one-half of our pupilage.

The divinity students will now have a fine time, while we poor fellows must continue to dig, but if it be true, "that every dog has his day and every bitch her afternoon," we need not shut out from ourselves all hope of leisure to devote to ourselves and *ours*. Hosmer<sup>1</sup> will preach here at the commencement of next term, if nothing happens; will you attend, if in Boston? Write every opportunity or when you have a leisure moment to spare me. I remain your friend, WILLARD PARKER.

NEW YORK, March 13, 1881.

I was very glad to hear from you through your letter, and to know you are comfortable. I had not heard of the accident you met with; you say you were thrown from the top of a carriage; pray, what were you doing in that posi-

<sup>1</sup> Rev. Dr. Hosmer, of Watertown, a classmate.

tion? the good book, you know, says, persons like us are afraid of that which is high and fears should be in the way. I am sorry Hosmer<sup>2</sup> is among the suffering ones. He paralyzed the bladder by retaining the urine too long a time. When old, we must obey the call of nature. His trouble is cystitis chronic, kidneys are sound, the reaction is acid, although feebly. He should neglect no means of recovery. The triple phosphates show the urine meets with pus in the bladder; the urine is decomposed by it, and the irritation is kept up. The specific gravity is right, or nearly so.

Now in order that our dear old classmate recover, he must eat *little strong meat*, and make less urea; the nearer his urine approaches *pure spring water* the better. Bread-stuffs, milk, mild fruits, you tell him what to do. The bladder should be washed out at bedtime, with warm soft water and have the organ completely emptied; washing out in this way he will go without much disturbance during the night and gain strength. If he do not recover, some slight medication of the wash may aid: an infusion of *buchu*, and in the twenty-four hours or every twelve hours a couple of the capsules of capsaia may be employed. I have found the greatest relief from washing out the pus and triple phosphates.

When you write to Hosmer please assure him of my profound sympathy; we are all admonished that the *Conscious Ego*, the individual which says my hand, eye, or body, is making preparations to leave this tenement as the landlord is slow to make repairs.<sup>3</sup>

WILLARD PARKER.

<sup>2</sup> Referred to, in the second letter.

<sup>3</sup> A similar quaint expression is associated with the late Dr. Shattuck, from whom Dr. Parker had probably heard it fifty years before.

#### REPORTED MORTALITY FOR THE WEEK ENDING MARCH 26, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Group.	Measles.
New York . . . . .	1,481,920	697	266	16.66	20.86	1.40	7.70	2.38
Philadelphia . . . . .	963,801	—	—	—	—	—	—	—
Brooklyn . . . . .	745,108	—	—	—	—	—	—	—
Chicago . . . . .	725,000	—	—	—	—	—	—	—
St. Louis . . . . .	420,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	150	58	6.66	9.24	—	1.98	1.33
Boston . . . . .	400,000	189	58	6.46	14.84	—	3.71	1.16
New Orleans . . . . .	342,750	92	30	13.08	13.08	8.45	3.27	—
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
District of Columbia . . . . .	210,000	92	30	8.72	3.27	2.18	2.16	—
Pittsburgh . . . . .	210,000	85	37	20.06	20.06	—	7.08	9.44
Montreal . . . . .	186,257	—	—	—	—	—	—	—
Milwaukee . . . . .	170,000	62	30	14.49	12.88	—	8.00	—
Providence . . . . .	121,000	40	14	22.50	17.50	2.50	—	10.00
Richmond . . . . .	100,000	36	15	5.56	16.68	—	—	2.78
New Haven . . . . .	80,000	—	—	—	—	—	—	—
Nashville . . . . .	65,000	—	—	—	—	—	—	—
Charleston . . . . .	60,145	37	6	7.40	22.30	—	—	—
Portland . . . . .	40,000	26	13	3.83	11.55	—	—	—
Worcester . . . . .	68,381	57	16	26.25	10.50	12.25	1.75	10.50
Lowell . . . . .	64,051	14	5	—	38.88	—	—	—
Cambridge . . . . .	59,690	37	15	13.50	13.50	2.70	2.70	—
Fall River . . . . .	56,863	17	5	5.88	11.76	—	—	—
Lynn . . . . .	45,861	13	5	—	7.69	—	—	—
Lawrence . . . . .	38,825	15	6	13.33	33.33	—	—	—
Springfield . . . . .	37,577	22	6	—	22.75	—	—	—
New Bedford . . . . .	33,303	15	7	20.00	20.00	—	—	6.66
Somerville . . . . .	29,992	14	2	—	—	—	—	—
Salem . . . . .	28,084	6	3	33.33	16.66	—	—	—
Holyoke . . . . .	27,894	11	1	9.09	—	—	—	9.09
Chelsea . . . . .	25,920	4	0	—	—	—	—	—
Taunton . . . . .	23,674	8	3	—	37.50	—	—	—
Haverhill . . . . .	21,795	3	0	33.33	—	—	33.33	—
Gloucester . . . . .	21,713	—	—	—	—	—	—	—
Brookton . . . . .	20,783	8	3	—	12.50	—	—	—
Newton . . . . .	19,750	4	0	25.00	50.00	—	25.00	—
Malden . . . . .	16,407	—	—	—	—	—	—	—
Fitchburg . . . . .	15,375	5	4	—	—	—	—	—
Waltham . . . . .	14,609	3	1	—	—	—	—	—
Newburyport . . . . .	13,716	5	3	40.00	40.00	—	20.00	—
Northampton . . . . .	12,806	—	0	—	—	—	—	—

Deaths reported 1,812: under five years of age 638; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 231, acute lung diseases 303, consumption 262, diphtheria and croup 86, measles 43, diarrheal diseases 21, typhoid fever 17, scarlet fever 16, cerebro-spinal meningitis 15, whooping-cough 10, malarial fevers nine, puerperal fever five, erysipelas six, small-pox (New York) four. From typhoid fever, New York five, Boston and Milwaukee, two each, Baltimore, District of Columbia, Pittsburgh, Providence, Lowell and Somerville one each. From scarlet fever, New York 10, Baltimore three, Providence, Fall River and Somerville one each. From whooping-cough, New York, District of Columbia and Holyoke two each, Boston, Baltimore, Pittsburgh and Lynn one each. From malarial fever, New Orleans four, New York three, District of Columbia and Charleston one each. From erysipelas, New York five, Providence one. From cerebro-spinal meningitis, New York seven, Fall River two, Pittsburgh, Providence, Worcester, Haverhill, and Northampton one each. From puerperal fever, Milwaukee two, New York, Richmond and Charleston one each.

In the 23 cities and greater towns of Massachusetts, with a population of 1,083,162 (population of the State 1,941,465) the total death-rate for the week was 23.72 against 22.68 and 20.27 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending March 12th, the death-rate was 21.6. Deaths reported 3,836; infants under one year of age 854; acute diseases of the respiratory organs (London) 423; measles 195, whooping-cough 83, scarlet fever 44, diarrhoea 32, diphtheria 31, fever 27.

The death-rates ranged from 16.1 in Derby to 37.1 in Manchester; Birmingham 18.5; Bradford 19.8; Brighton 21.2; Halifax 23.1; Hull 21.5; Leeds 17.2; Liverpool 25.9; London 20.4; Newcastle-on-Tyne 24.9; Nottingham 18.4; Sheffield 18.8; Sunderland 26.6.

In Edinburgh 19.0; Glasgow 29.5; Dublin 31.3.

The meteorological record for the week ending March 26, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Trajectory, Hrs. & Min.	Amount in Inches.
Saturday, Mar. 26, 1887.																		
Sunday,....20	29.918	36.0	40.0	33.0	89.0	81.0	64.0	N.E.	E.	S.E.	12	8	4	O.	O.	O.	—	—
Monday,....21	29.919	41.0	53.0	31.0	74.0	44.0	74.0	W.	S.W.	S.	6	10	11	C.	F.	F.	—	—
Tuesday,....22	29.213	36.0	40.0	34.0	30.0	100.0	98.0	E.	N.E.	N.W.	26	14	18	SI.	O.	R.	—	—
Wednesday,....23	29.504	28.0	36.0	24.0	67.0	65.0	54.0	N.W.	N.W.	W.	28	28	24	O.	O.	O.	—	—
Thursday,....24	29.766	34.0	42.0	29.0	69.0	36.0	75.0	N.W.	W.	S.W.	16	18	14	C.	C.	C.	—	—
Friday,....25	29.612	37.0	46.0	27.0	68.0	34.0	54.0	W.	W.	E.	24	32	12	F.	F.	F.	—	—
Saturday,....26	30.154	37.0	32.0	23.0	53.0	51.0	53.0	W.	W.	W.	22	24	16	C.	C.	C.	26	.25
Mean, the Week.	29.736	34.0	41.0	27.0			66.0											

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; SI., sleet.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 26, 1887, TO APRIL 1, 1887.

PERLEY, HARRY O., captain and assistant Surgeon. Ordered for temporary duty at Fort Maginnis, M. T. S. O. 23, Department of Dakota, March 18, 1887.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 2, 1887.

WAGGENER, J. R., passed assistant surgeon. Commissioned a surgeon on the 18th of March.

FITTS, H. B., passed assistant surgeon. Ordered to the Receiving Ship "Vernont."

TRACY, E. C., assistant surgeon. Detached from the "Vernont" and ordered to the "Atlanta."

HEFTINGER, A. C., passed assistant surgeon. Detached from the "Atlanta" and ordered on special duty in connection with construction of hospital at Widows Island, Me.

#### SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.—THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, April 13th, at 7.45 o'clock. Papers: Dr. Henry Jackson, "A Case of Acute Infectious Universal Myositis." Dr. R. H. Fitz will open the discussion. Dr. F. C. Shattuck, "Four Hospital Cases. (1) Tetany; (2) Hemophilia; (3) Cirrhosis of the Liver; (4) Peritonitis, with Perforation of the Abdominal Wall." Dr. F. Minot will open the discussion. Dr. C. F. Folsom, "A Case of Multiple Neuritis (idiopathic). Drs. S. G. Webber and J. J. Putnam will open the discussion.

ALBERT N. BLODGETT, M.D., Secretary.

F. I. KNIGHT, M.D., Chairman.

GYNECOLOGICAL SOCIETY OF BOSTON.—The next meeting of the Society will be held at the Medical Library Rooms, No. 19 Boylston Place, on Thursday, April 14th, at 4 o'clock, P.M. Dr. I. W. Starbird will read a paper entitled "Puerperal Eclampsia." Dr. H. J. Harriman will also offer a paper.

H. J. HARRIMAN, M.D., Secretary.

#### BOOKS AND PAMPHLETS RECEIVED.

Cooper Medical College, San Francisco. Annual Announcement. Session of 1887.

Annual Report of Morse Dispensary of Cooper Medical College for 1886. San Francisco, 1887.

The "Expert" in Court and Legislature. By Nelson S. Giberson, M.D., of San Francisco, Cal. 1886. (Reprint.)

Litholapaxy in Male Children and Male Adults. By Surgeon-Major D. F. Keegan, M.D., Dub. Bengal Medical Service, Residency Surgeon, Indore, Central India. London, 1887. (Reprint.)

A Compend of Surgery for Students and Physicians. By Orville Horwitz, B.S., M.D. Third edition, thoroughly revised, enlarged and improved. With Ninety-one Illustrations. Philadelphia: P. Blakiston, Son & Co. 1887.

The Doctorate Address delivered at the Semi-Centennial Anniversary of the University of Louisville: Medical Department, March 2, 1887. By David W. Vandell, M.D., Professor of Surgery and Clinical Surgery in the University. Louisville, 1887.

The Diseases of the Ear and their Treatment. By Arthur Hartmann, M.D., Berlin. Translated from the Third German Edition by James Erskine, M.D., M.A., Surgeon for Diseases of the Ear to Anderson's College Dispensary, Glasgow. With Forty-two Illustrations. New York: G. P. Putnam's Sons. 1887.

• Live Birth in its Medical-Legal Relations. Annual Address Delivered before the Medical Jurisprudence Society of Philadelphia, January, 1887. By John J. Reese, M.D., Professor of Medical Jurisprudence and Toxicology at the University of Pennsylvania, President of the Medical Jurisprudence Society of Philadelphia. 1887.

A Treatise on Diseases of the Skin, with Special Reference to their Diagnosis and Treatment, including an analysis of 11,000 consecutive cases. By T. McCall Anderson, M.D., Professor of Clinical Medicine in the University of Glasgow, etc. With colored plates and numerous other illustrations. Philadelphia: P. Blakiston, Son & Co. 1887.

The Question of Hemorrhage following Uvulotomy. Report of Twenty-Three Cases of Obstinate Uvular Hemorrhage: Description of a Uvular Clamp; Bibliography. By Ethelbert Carroll Morgan, A.B., M.D., Washington, D. C. First Vice-President of the American Laryngological Association. New York: D. Appleton & Co. 1886. (Reprint.)

## Original Articles.

CLINICAL REPORT OF SIX MONTHS' EXPERIENCE WITH THE PNEUMATIC CABINET, WITH TWENTY-SEVEN CASES.<sup>1</sup>

BY G. W. MCCASKEY, A.M., M.D.,

Professor of Diseases of Chest and Throat, Fort Wayne College of Medicine; Fellow of the American Academy of Medicine, etc.

In presenting to you my first clinical report of pneumatic-cabinet treatment, I will not detain you by a description of the apparatus used, or a discussion of the principles involved. I have received numerous letters from physicians, inquiring about the danger of accidents. I think these dangers have been somewhat over-estimated. With a single exception, I have never seen a syncope or hæmoptysis occur as even a possible result of the treatment. In this case (No. VIII), the patient spat up a teaspoonful or two of blood several hours after treatment. It was not the first hæmoptysis, and was not repeated, although the treatments were continued, and, I think, was simply a coincidence. Indeed, if the hæmorrhage is not from fragile, cavernous walls, but is due to over-distension of the capillaries, there can be no doubt that the relatively increased pulmonary pressure is curative. The lowering of arterial tension imperatively demands caution; but with the adoption of two inflexible rules (1) always to examine the heart; and (2) always to commence with *low pressures*, and *increase them gradually*—I believe that the danger is as slight as it could possibly be with any instrument of equal power. Here, as everywhere, whatever is potent for good may become, in ignorant or careless hands, powerful for harm.

In the treatment of phthisis, its dual relations to the lungs, on the one hand, and the system on the other, have been fully recognized. No "hobby" has been ridden, to the exclusion of those measures, the value of which has been attested by experience and observation. While the clinical histories of these cases constitute a record of experience with the pneumatic cabinet, yet it has been used as an auxiliary to recognized methods of general treatment; and there may often be an honest doubt as to how much is due to cabinet treatment, and how much to dietetic, hygienic, and therapeutic measures. After all, however, the most important question is: Are the results obtained by general treatment and cabinet treatment, jointly, better than those obtained by the former alone? If so, then the pneumatic cabinet has demonstrated its *raison d'être*, and should be regarded as an indispensable factor in the treatment of certain forms of pulmonary disease.

Cod-liver oil has been administered, whenever it was tolerated, in doses sufficiently large to be of service. When patients could only tolerate a half or one tablespoonful of a fifty per cent. emulsion (the usual strength of the various emulsions of the market), I have generally ordered it stopped, and used a substitute. Jaccoud says<sup>2</sup> that less than three ounces of oil (not emulsion) daily will be of but little service. Whether this rather extreme view can be fully indorsed or not, I am thoroughly convinced that the doses of oil ordinarily administered are practically useless. Glycerine has been used as the next best substitute; and when this was not accepted, sweet

cream, in doses of half a pint to one pint daily, has been advised. Pyrexia has been treated with quinine, salicylic acid, and antiseptic inhalations. Quinine has also been administered in some cases in tonic doses, alone, or combined with creosote, and sometimes iron, with or without the bitter tinctures.

For inhalation, the conventional spray of Hg. Cl<sub>2</sub> 1-1000, was used at first, to the exclusion of everything else. When this produced irritation, it was reduced to 1-1500 or 1-2000. A two per cent. solution of carbolic acid was used later on, but a one per cent. solution was found to be strong enough for the average patient. Among other sprays used were Dobbell's solution, five per cent. mixtures of pinus canadensis, and hydrastis canadensis. For the first three months, these sprays were simply projected into the external trumpet-shaped extremity of the breathing faucet, at the temperature of the room. Since then, medicinal agents have been carried into the lungs by means of an apparatus described elsewhere, which conveyed them in the form of saturated vapor, at an elevated temperature.

The records of cases will be made as brief as is consistent with a reasonably full appreciation of the condition of each patient.

CASE I. Male, unmarried, aged twenty-four. American, compositor; phthisis. Had winter cough for several years, which subsided every spring, until 1884. Had two attacks of hæmoptysis in April, 1885. From this time, cough and emaciation were continuous. Weight had fallen from 150 to 130 pounds. Under general treatment had gained seven pounds, when, on June 18, 1886, he was placed upon cabinet treatment. At this time, dullness on right side extended from apex down to second intercostal space, with almost pure bronchial respiration.

He was given one inch differentiation until July 8th, during which time he took ten treatments, with spray of 1-1000 Hg. Cl<sub>2</sub>. The improvement in symptoms was quite remarkable and continued after treatment was stopped. The patient removed to an adjoining State, but called December 5, 1886, in apparently perfect health. Weight 150 pounds, and no cough whatever. Dullness on percussion still remains. If absence of symptoms for five months can be regarded as satisfactory evidence of cure, then this patient has recovered, with probably fibrous transformation of tubercular area.

CASE II. Female, married, aged fifty-two, French; phthisis. Had ten children. Last one died "scrofulous," at seven months of age. Right lung: Dullness on percussion over upper and middle lobes, with cavernous respiration near apex. Patient came to the office with difficulty three times, after which she became bed-ridden, and died about one month later.

CASE III. Male, married, aged forty, German, saloon-keeper; phthisis. Healthy weight 190, present weight 170 pounds. Came under observation March 16, 1886. Health good until about two months ago, when he contracted a severe cold, and has coughed and expectorated ever since. Broncho-vesicular respiration at both apices, with very slight dullness on left side. Took fifteen treatments with Hg. Cl<sub>2</sub> spray 1-1000 and one-half inch pressure. The cough and expectoration, which were probably due to a concomitant bronchitis, rapidly subsided, leaving the broncho-vesicular respiration, but slightly, if any, modified. Patient summered at Northern health resort, and came

<sup>1</sup> Read before the Fort Wayne Academy of Medicine, December 15, 1886.

<sup>2</sup> "Curability and Treatment of Pulmonary Phthisis," p. 128.

home with nearly normal weight. Physical signs slightly improved.

CASE IV. Male, married, aged thirty-five, German, cigar-maker; phthisis. Right apex solid down to second interspace, with large cavity. Profound cachexia, with jaundiced hue. Healthy weight 135 pounds, present weight 115. Bronchial respiration at apex of left lung. Also tubercular laryngitis, with complete aphonia and dysphagia. Afternoon temperature, 102° F. Abundance of elastic fibres and tubercle bacilli in sputum.

Was only able to breathe against  $\frac{1}{4}$  inch of mercury, with 1-1000 Hg. Cl<sub>2</sub> spray, which was kept up daily for two weeks, and supporting treatment. He gradually sank, however, and died in one month from the commencement of treatment. While nothing was accomplished or expected in this case in the way of cure, yet the patient was made much more comfortable by the treatment. After the second treatment, he had the first night's rest for three weeks, owing to diminished cough, with bronchial irritation. Complete temporary relief was afforded the most distressing laryngeal symptoms by the application of a blister over the thyroid cartilage.

CASE V. Male, married, aged forty, American; fibroid phthisis. Left side: Dulness from apex down to fourth rib in mammary line. Bronchial respiration at apex, shading off into broncho-vesicular down to fourth rib. Marked retraction over infra-clavicular region. Right side: Percussion note fair throughout. Auscultation good, except expiratory murmur at level of third rib in front. No retraction. Chest expansion one inch: 29 $\frac{1}{2}$  to 30 $\frac{1}{2}$  inches.

Took fifteen cabinet treatments extending over one month, with one-half inch pressure and 1-1000 Hg. Cl<sub>2</sub> spray. Quite marked benefit as to symptoms, but without appreciable change of physical signs.

CASE VI. Female, married, aged forty, English; phthisis. Referred by Dr. A. P. Mitten of Columbia City. The case came under observation May 21, 1886. Family history good, except that one sister died of consumption at twenty years of age. Personal history: Never sick until October, 1885, when she took cold, and sore throat; has had cough ever since. Weight reduced from 130 pounds to 113 $\frac{1}{2}$  pounds. Appetite and digestion good.

Physical examination, in consultation with my colleague, Dr. J. S. Gregg, who has anxiously watched the progress of the case throughout. Left side: Inspection shows some depression in both infra- and supra-clavicular region. Complete dulness extending from apex down to fourth rib at outer margin of mammary region, and to second rib in front; posteriorly dulness extends somewhat lower than in front. Bronchial respiration heard over greater part of lung, with cavernous respirations just above second rib near outer margin. Crepitant râles in abundance from apex down to third rib with scattering sibilant râles. Right side: Very slight impairment of resonance over infra-clavicular region, with "jerky" and slightly harsh inspiratory sounds. Mensuration: Forced inspiration 30 $\frac{1}{2}$ ; forced expiration 28 $\frac{1}{2}$ . Afternoon temperature had been about 102°F., but the free administration of quinia by Dr. Mitten, before the patient visited me, had lowered and kept down the temperature to about 100° F. Pulse 120 to 130.

Patient was placed at once on cabinet treatment Hg. Cl<sub>2</sub> 1-1000 spray, with quinia continued in tonic

doses, and fifty per cent. emulsion of cod-liver oil in tablespoonful doses three times daily to be gradually increased. May 29th. Physical examination in consultation with Dr. Gregg, showed dulness unchanged. Auscultation shows clearly that more air enters upper lobe than at first examination. June 5th. Percussion shows line of dulness gradually receding from lower and inner margin of solidified area. June 10th. Emaciation has been continuous, reaching 111 $\frac{1}{2}$  pounds, a loss of two pounds since commencing treatment. From this time on, gradual increase of weight. June 13th. Cough much better. Night cough entirely relieved, and but little cough during the day. July 1st. Dr. Mitten writes me: "Found condition greatly improved. Dulness greatly lessened. Vesicular murmur partly restored. In fact, respiratory action of affected lung greatly improved. More improvement than I dared to hope for when she went to you."

At this time the margin of dulness had receded fully two inches below and in front. October 1st, "Feels about well." Auscultation discloses no râles, and I am unable to distinguish the cavernous murmur. Weighs 117 $\frac{1}{2}$  pounds. The pulse, however, has never been found below 96, and generally 108. Afternoon temperature 99 to 99 $\frac{1}{2}$ ° F.

In the early part of November, a circumscribed pneumonia developed in lower lobe of left lung which has only partially resolved. With this exception, the condition of the patient has remained about the same until date of writing, December 15, 1886, being still under treatment.

CASE VII. Female, unmarried, aged twenty-nine, American, dressmaker; phthisis. Right lung dull on percussion over upper half, with broncho-vesicular respiration. Daily treatment from July 1st to August 6th, was followed by marked improvement of both symptoms and signs. At this time she left the city for a month's vacation, during which the improvement continued. Treatment was resumed September 8th, and continued one month, with progressive improvement. Signs of primary infiltration have disappeared except over small area in second interspace where they were and still are (December 15th), appreciable. The patient has had two attacks of bronchitis as the result of exposure, for the last of which she is now taking cabinet treatment. An unpleasant, and I fear ominous feature of this case has been an intractable anemia, not influenced by chalybeates.

CASE VIII. Male, married, aged thirty-two, American, lawyer; phthisis. Strong family history of tuberculosis. One sister died of pulmonary phthisis aged thirty-one, and another of tuberculosis of the bowels aged seventeen. Of extremely nervous temperament; highly excitable. Came under my observation February 11, 1885, at which time he was suffering from severe and intractable lumbar pains, and cramping pains in the bowels. In consultation with Dr. H. S. Woodworth it was decided that the pains were neuralgic in character, and probably dependent upon chronic malarial poisoning from which patient had suffered for years, as evidenced by an enlarged spleen. On May 26, 1885, I took him to Dr. N. S. Davis, of Chicago, who, after a careful examination, expressed the opinion that the case would terminate in pulmonary phthisis. This opinion was based upon slight increase of vocal fremitus, with malnutrition, and family history.

Shortly after this the patient passed from observa-

tion, reappearing again April 25, 1886. At this time physical examination revealed bronchial respiration with slight dullness on percussion at right apex, extending some two inches below the clavicle. No râles. Resonance of left lung fair. Spleen very much enlarged and quite movable.

Took about one dozen treatments with different sprays, as all seemed to aggravate the laryngeal complication. Treatment was very irregular, and the patient again passed from observation with little improvement.

CASE IX. Male, unmarried, aged twenty-four, German, painter; phthisis. Dullness at left apex with broncho-vesicular respiration, and some crepitant râles. Marked general debility. Cough dry and persistent. Cabinet treatment with 1-1000 Hg. Cl<sub>2</sub> spray, with general treatment for about five weeks, resulted in disappearance of symptoms, and decided improvement of physical signs. Patient considered further treatment unnecessary, and has not reported for examination since, although members of his family tell me that he is apparently well.

CASE X. Male, unmarried, aged twenty-three, American, train despatcher; phthisis. Family history good. Personal history good until three years ago, when he contracted a severe cold. Since then has had occasional but not constant cough. Consulted me for acute bronchitis which resisted the usual methods of treatment. After six weeks of expectorants, sprays, and hopeful patience, the cough was absolutely unchanged.

Finding slight dullness on percussion over inner margin of right lung in second interspace, and over circumscribed area just below middle third of clavicle. I advised cabinet treatment. Five treatments, extending from May 22d to June 3d, with one-inch pressure, and 1-1000 Hg. Cl<sub>2</sub> solution as spray, absolutely cured the cough. The treatment was continued about one month longer with slight modification of physical signs.

CASE XI. Female, unmarried, aged twenty-three, American. Health good until she had a sunstroke in 1880, and hæmoptysis in 1883. Has badly-developed chest with dullness and broncho-vesicular respiration at right apex. Marked general debility with cachectic appearance. Commenced treatment on June 8, 1886, and continued for six weeks, taking two treatments weekly. Slight improvement which continues to present date.

CASE XII. Male, married, aged twenty-nine, American, mechanic; chronic phthisis: history of phthisis in family. Never sick until spring of 1880, when he contracted a severe cold and had cough, expectoration, and some emaciation during succeeding summer. In the fall was taken with "typhoid pneumonia" limited to left lung. Upon recovery cough ceased entirely, but came back in about three months, with expectoration. Condition has remained much the same since that time, except that in August of each year has been confined to his bed by cough and general debility. In winter gains ten or twelve pounds, losing it again in the summer.

At present (June 9, 1886) there is extreme general debility. Unable to walk more than a couple of blocks. Expectoration profuse. Chest muscles greatly wasted, with considerable retraction over upper half of left lung. Percussion note flat down to lower edge of second rib with impaired resonance two inches

lower. Respiratory sounds purely bronchial down to second rib, with crepitant râles over entire lung except at apex: cavernous murmur just below centre of clavicle. Resonance good on right side, except doubtful dullness in supra-clavicular region. Respiratory murmur rather harsh, but no râles. Heart sounds regular but rather tumultuous, and second sound greatly accentuated. Mensuration 29½ and 31½ inches. Respiratory capacity 100 cubic inches. Pulse 90, temperature 100° F.

Could not take cod-liver oil. Said he had tried it at least a dozen times, but "belched" it up for six or eight hours after, entirely destroying the appetite, and disordering digestion. Placed him on tonics and cabinet treatment, with 1-1000 Hg. Cl<sub>2</sub> spray, one-inch pressure. The first treatment caused a paroxysm of coughing lasting half an hour. The spray was reduced one-half, with little farther trouble. June 18th. Râles rapidly disappearing from lower lobe of lung. July 3d. Left lung continues to clear up in lower lobe, fewer râles, and more air enters upper lobe. July 29th. Just returned from two weeks absence. Rather more râles, but otherwise no change. Patient gained five pounds in weight, and walked to and from office, distance of a mile and a half. Improvement not continuing, treatment was discontinued November 6th.

CASE XIII. Male, married, age fifty-eight, American, farmer; phthisis, following typhoid fever. Dullness and bronchial respiration at apex of right lung, with great general debility.

Commenced treatment May 25th, and continued with several intermissions until November 1st. Great improvement both in physical signs and general symptoms. At this time he had an attack of dysentery which completely prostrated him, since which time he has not been able to come to the city for treatment; have not seen him since, though prescribing for him at intervals.

CASE XIV. Female, unmarried, aged twenty-three, American; primary infiltration of right apex, with chronic bronchitis. Marked anæmia, general debility and loss of ten per cent. of body weight, weighing 95½ pounds. Very slight dullness with broncho-vesicular respiration, in right infra-clavicular region. Placed on cabinet treatment with one-inch pressure, and supporting treatment. Improvement in this case was slow but continuous; and after four months daily treatment, covering May to August inclusive, was discharged apparently cured. Chest capacity has increased some ten per cent., and physical signs of disease have practically disappeared.

The only complaint which the patient makes is that she "catches cold" easily and has laryngeal irritation at such times. The diagnosis of phthisis was not verified in this case by finding bacilli in the sputum, but the points pertaining to symptoms and history were strongly corroborative. I believe now that this is a case of incipient phthisis cured; but the patient will probably remain under my observation for several years, and the future history will be duly reported.

CASE XV. Male, married, age thirty-eight, American, merchant; advanced phthisis. Family history bad. Had pleuritis (left side) twelve years ago. Some cough most of the time since. Marked dullness with bronchial respiration and crepitant râles from apex to second rib on right side, with cavernous murmur. Slightly harsh respiratory murmur at left apex,

and impairment of resonance of the lower lobe, probably the result of the old pleuritis. Weight reduced about fourteen per cent. — 140 to 120½ pounds. Respiratory capacity 150 cubic inches. Microscopical examination shows abundance of elastic fibres and tubercle bacilli. Was placed on cabinet treatment June 12, 1886, with one-inch pressure, and Hg. Cl., 1-1000 spray. July 21st. Respiratory murmur much clearer; signs of cavity more distinct. August 2d. Percussion of right lung seems a shade clearer. August 7th. Air enters right lung decidedly better. Respiratory capacity 162 cubic inches. Some laryngeal irritation. Laryngoscopic examination shows no signs of laryngeal tuberculosis. September 15th. Weight 125½ pounds; cough and expectoration diminished about one-half. At the present writing condition remains about the same.

CASE XVI. Female, unmarried, age twenty-seven, American, bookkeeper; dulness at right apex with broncho-vesicular respiration. Hacking cough, with no expectoration. Took cabinet treatment for one month with one-inch pressure. Cough and physical signs had about disappeared; the patient was discharged, and remains well.

CASE XVII. Female, age fifteen, American; phthisis. Bronchial respiration with bronchophony at apex of right lung, with crepitant râles. Considerable cough, mostly dry. Strong family history of phthisis. Healthy weight 121, present weight 101½ pounds. Took cabinet treatment daily for nearly three weeks; cough much improved; crepitant râles practically gone. Body weight 106½ pounds. At this time she felt able to resume her work which prevented her from continuing treatment. Have not heard from her since.

CASE XVIII. Male, married, age twenty-six, American. This patient had been leading an indoor life for several years, during which time he suffered from intractable chest pains which were thought to be intercostal neuralgia. At the left apex I found a peculiar harsh rough murmur, present at nearly every inspiration over a circumscribed area. There was no dulness on percussion. Several examinations at intervals of a week or ten days confirming the presence of an adventitious murmur of an obstructive character. I advised cabinet treatment, purely for its mechanical effect. About one dozen treatments were taken without apparent change of physical signs.

CASE XIX. Male, unmarried, age nineteen, student; advanced phthisis. Referred by Dr. W. P. Wherry. Five years ago had "typhoid fever and lung fever." Does not know whether one or both lungs were affected. Made fair recovery, but has had frequent colds and coughs ever since.

Present illness commenced a year and a half ago. Since then has had chilly sensations in the morning with fever in the afternoon nearly every day. Chest poorly developed; some depression on right side in infra-clavicular region. Well defined cavity in upper part of right lung, about three inches below clavicle. Cavernous signs most marked behind. Placed on cabinet treatment August 18, 1886, with one-inch pressure. October 1st. Does not cough as much as he did. Has been under treatment almost daily ever since, with considerable improvement of physical signs and general symptoms. General condition has improved materially with six pounds increase of body weight.

CASE XX. Female, married, age thirty-two, American; chronic bronchitis of several years standing. Cabinet treatment was carried out for three weeks with various sprays, without apparent improvement. Patient was hysterical, and probably exaggerated the symptoms, although there were physical signs of bronchial irritation. Has not reported for three months.

CASE XXI. Female, unmarried, age twenty-four, American; phthisis. Had been under observation at times for three years, during which time the physical signs — those of catarrh of the apex — gradually grew more pronounced. Came under observation last, on September 1, 1886, taking cabinet treatment for six weeks. Dulness on percussion was quite well marked at right apex, and over circumscribed area in third interspace. There was considerable improvement in both symptoms and signs; but the progress not being sufficiently rapid to suit her, she discontinued treatment and has not been seen since.

CASE XXII. Male, married, age thirty-five, American; doubtful lesion of left apex. Harshness of respiratory sounds, with slightly impaired resonance. Chest poorly developed. Took three treatments with some improvement of chest expansion. At this time he left for summer vacation, and was lost sight of.

CASE XXIII. Male, unmarried, aged thirty, farmer, American; advanced phthisis. Referred by Dr. Brown, of Wabash, Ind., September 29, 1886. Health always good until ten years ago, when he had what was probably remittent fever. The attending physician called it pneumonia; but, as there was neither cough, expectoration, nor chest pain, the diagnosis would seem doubtful. Health then remained about the same as usual until June 10, 1886, when he was taken with chills and fever, and was sick about one week. This time, the physician called it catarrhal fever; but, as there was cough and expectoration, it was probably lobar or lobular pneumonia. After this had continual cough, with slight expectoration. Got overheated in harvest-field, and from this on grew gradually worse. No hæmoptysis. Always subject to epistaxis. Poorly-developed chest, with great emaciation. Heart-impulse visible over extended area. Fair resonance over right lung. Left lung perfectly flat from apex down to nipple. Crepitant and fine mucous râles throughout greater part of left lung, front and back, with coarse, bubbling râles at base. Cavernous murmur and tympanic resonance just below nipple. Appetite and digestion very much impaired. Bowels moving six times per day. Pulse 110, temperature 99° F., at 5 p. m. Gave unfavorable prognosis, but patient had come to stay, and was, accordingly, placed on supporting treatment, with efforts to control diarrhoea, which was probably due to tubercular ulceration, and thus, perhaps, slow the inevitably fatal march of the disease. Very mild cabinet treatment was instituted, to satisfy the patient, but, of course, without benefit. At the end of two weeks I persuaded his father, who had hitherto refused to accept my prognosis, to take him home to die, which he did ten days later.

CASE XXIV. Female, married, aged thirty-three, American; advanced phthisis. Healthy weight 165, present weight 102 pounds. Family history good. Personal history: Health always good until spring of 1885, when she commenced having slight cough in the morning, with loss of flesh. In the following September she became too weak to do housework for herself

and husband. Menstruation ceased with commencement of the cough, since when there has been no "show" whatever. Has had chills every day, about 9 A. M., followed by fever, which usually reached its acme at noon. Digestion considerably impaired. Night sweats had been constant until two months ago, when they were stopped by six-grain doses of gallic acid, since which time they have not returned. Tympanic resonance and cavernous murmur at outer and upper part of right lung, with bronchial breathing down to sixth rib. No rales. Left lung: Bronchial breathing and dullness on percussion at apex, with a few crepitant rales. Organic changes less extensive, but apparently more active than in right lung. At 11 A. M., pulse 120, temperature 99.5° F.; 4 P. M., temperature 100.5° F. Gave unfavorable prognosis, but, at her husband's urgent solicitation, agreed to keep her under observation for a fortnight. Next day (October 8th), had chill at 8 A. M., and at 10 A. M., temperature was 104° F. Both the patient and her husband thought that the fever had frequently been as high as this during the last three or four months. Next morning, gave thirty grains of hydrobromate of quinia in three doses, with the result of a normal temperature all day. She took half-a-dozen treatments in the pneumatic cabinet, when I advised her to wait a few days, in the hope that, with the control of the fever, her strength would improve somewhat. The temperature was maintained at about the normal, and the patient taken home to await the result of the treatment of the pyrexia, upon which the rapidity of its fatal march was thought to depend. The improvement was quite marked after the cessation of fever, but her condition was not such as to justify her in returning to the city for treatment. In about one month the fever returned, and the case terminated fatally a few weeks later.

CASE XXV. Male, unmarried, aged twenty-seven, farmer; advanced phthisis. (Referred by Dr. G. N. Worley.) Father's sister died of consumption. No other case known in the family. Present illness dates from last January, and is referred to a long drive taken on a very cold, stormy day, although he was not conscious of "catching cold" until some ten days later. The first symptom was a dry cough, which grew progressively worse for about one month, by which time it became very bad. Broke down, while at work, in July, and had some form of pneumonia, which lasted three weeks. Had another attack August 28th, after exposure, also lasting three weeks, from which there is now only partial recovery. Has had some hæmoptysis and night-sweats. Always subject to epistaxis. Pulse 130, temperature 101° F. Lower lobe of left lung hepatized, with dullness at right apex, extending down to second rib; crepitant rales at right apex. Patient was under observation about two weeks, all the symptoms becoming progressively worse. Was placed in the cabinet two or three times, with very slight pressure. Was taken home, and died November 16, 1886.

CASE XXVI. Male, single, aged twenty-three; chronic bronchitis, dating from acute bronchitis in 1883. Last winter, commenced having a hacking cough, and has gradually failed in general health. Ten per cent. loss of weight. Took cabinet treatment three weeks irregularly, with some improvement.

CASE XXVII. Male, married, aged thirty-two; advanced phthisis. One sister died of consumption, and

father had some form of lung disease, but died of gastric cancer. One brother has chronic cough. Health good until five years ago, when he was awakened by a sudden cough, and thinks he spat up a pint of blood. Never had the slightest cough before this. Made fair recovery from this attack, but every winter since then has had about one month's sickness from prostration and cough. Never had a second hæmorrhage, except once last winter, while in Los Angeles, spat up a spoonful or so of blood. Right lung nearly solid, except a large cavity from third interspace to apex. Resonance fair in left lung, except slight elevation of pitch at apex. Afternoon temperature, 102° to 103° F.; pulse, 108. Endeavored to control pyrexia by hydrobromate quinia, and this failing, by salicylic acid, administered according to Jaccoud's plan; also carbolic-acid inhalation, but all without avail.

The patient took five cabinet treatments, while other methods were being used to counteract the pyrexia. There being no improvement, he returned home, a distance of fifty miles, and has not been heard from since.

No attempt will be made to classify the cases recorded, because any statistical facts, to have value, must be based upon more cases than are here reported, and upon cases observed for a longer period than six months.

The proportion of "improvements" could have been largely increased by refusing to treat the hopeless cases. But the chief duty of a physician, as I see it, is not to manufacture favorable statistics, but to combat disease, if he cannot realize the still higher goal of prevention; and I have no hesitation in doing what I have repeatedly done—make the last weeks of a consumptive more comfortable, even at the risk of utterly ruining my statistics.

## TWO CASES OF INSOMNIA.

BY S. G. WEBBER, M.D.

THE two following cases of sleeplessness are among the most severe and obstinate I have met in sane patients. They are of interest from the conditions which accompanied the wakefulness, the removal of which seemed to favor the recovery of power to sleep. Originally, both seemed to have been caused by mental strain, or by over-taxed brain; the abnormal condition, in one case of the skin, in the other, of the uterus, probably served as additional etiological factors, or to keep up the sleeplessness after it had once commenced.

Miss A., aged fifty-four, had never been well after having the measles at eighteen years of age. During winters she has been subject to colds, feeling "stuffed across the lungs." She never thought she had any nervous trouble until four years ago, when she received a shock from the sudden death of her mother, who was sick only one day. Her father is alive and well, eighty years of age.

After her mother's death she had the care of house-keeping; also looked after a small business of her own. She then began to have restless nights and "spells of nervousness," in which she would shake or tremble all over. She slept very little, and often could not lie down. She had considerable dyspepsia, distress soon after eating, acidity, and heartburn.

After poor nights, she had distress in her head and headache.

She thought that, formerly, she may have had some uterine trouble. At one time she wore a support, but she passed the climacteric without serious inconvenience. She had taken paraldehyde for many weeks, with the result of giving sleep, and with seemingly no bad effect. The quiet and freedom from home cares at first had a very beneficial effect, and sleep was more natural. Later, for a while, she slept well, after taking two grains of quinine at noon and at bed-time. There was much disturbance and loss of sleep, caused by two or three attacks of looseness of bowels, with some colic, possibly ordinary summer disturbance, or of nervous origin. Occasionally, it was necessary to give a dose of paraldehyde at night, but not frequently. On the whole, however, the sleep was very poor and these remedies were of only temporary benefit.

It was noticed that the skin was harsh and dry, and she scarcely ever perspired. A warm pack was given at bed-time for several nights. At first, this did not produce perspiration, and when the temperature of the pack was reduced, it had no effect until a dose of pilocarpine was given with it. When perspiration was free, the sleep was natural and refreshing. After eight days the pack was omitted. The pilocarpine, half-a-grain by mouth, was continued at bed-time. On the tenth day after trying the above treatment it is recorded: "Skin has a more natural feeling. She is better; is improved in appearance; has gained in flesh. Stomach don't give so much trouble. Can stay in room, and lie down with more comfort than for a long time."

The pilocarpine was reduced to one-sixth of a grain, and after two weeks it is recorded: "Patient is decidedly better. Sleeps five to six hours on an average, almost always without extra help. Can lie down with very much less discomfort." The urine was natural, acid, sp. gr. 1018, without albumen or sugar.

In this case, there seems to have been an intimate relation between the loss of function in the skin and the sleeplessness. Whether both conditions depended upon the same cause, or the loss of power to sleep was the result of diminished cutaneous action, may be questioned. She was not seen until the two conditions had been of so long standing, that I will not venture to decide the question. The power of sleeping was recovered in proportion to restoration of the function of the skin.

CASE II. Miss C., aged twenty-two, was never very well, though, from eleven to fourteen years of age, she enjoyed very fair health. The patient's father and father's family were healthy; her father died some years ago. Her mother is alive, a very nervous woman, and has severe headaches and neuralgia, and is a poor sleeper. The mother's mother is not well. One of her mother's sisters is insane.

At about fifteen years of age she was obliged to leave school. For two years previously she had not slept much. She was confined to her bed, and could see no one, except her mother, without screaming, laughing, and crying. Her head felt badly, and her back troubled her all the time. At times her legs ached, and she had pain in the joints. For two weeks before I saw her she had slept well.

The pupils acted naturally; the eyes, face, tongue, and limbs moved naturally. There was no trembling of hands; they were rather moist, as were also the

soles of the feet. There was lack of strength. Sensation was natural. Plantar reflex was slight; patellar-tendon reflex was natural. Heart and lungs were in a normal condition. There was no tenderness over the spine, but pressure on the muscles either side of the spinal column caused some discomfort.

After about two weeks she had an hysterical attack. Said she could not breathe; had much distress, agonizing for breath. Screamed two or three times, loud enough to be heard all over the house. Had pain in back, but head did not ache.

The chief unpleasant symptom was sleeplessness. When she could sleep, her head felt comfortable; if she lost sleep, she had more discomfort in her head. She was dressed and about the house most of the time; went out-doors, but was not able or not inclined to take much exercise.

Various means of inducing sleep were tried — rest in bed, hot baths, warm packs, cold douches to back, diet — but with only temporary success. Various hypnotics were used, with varying results. Paraldehyde would produce sleep one night, not the next. Urethane did no better. A pill containing camphor and lupulin caused sleep several nights. One containing camphor, extract of hyoscyamus, and extract of valerian also gave several nights' sleep, but both these, finally, had little effect.

On account of the distress in her head and headache aconitia was used, in a dose of two-hundredth of a grain. Not only was the head relieved but that night sleep was much more natural and refreshing. The aconitia was afterwards given frequently at bed-time with favorable results. It did not produce sleep every night.

She said a uterine examination had been made with negative result, so at first no such examination was made, but as the various means proved of no avail, one was proposed. The introduction of the fingers caused much nervous disturbance, almost an hysterical attack. No displacement was found, and no attempt was made to use a speculum on account of this nervous disturbance. There seemed to be considerable tenderness of the uterus and in the vicinity of the ovaries, therefore hot douches were ordered, and while taking these for awhile, she slept better.

About a month later, there being more distinctly marked pelvic disturbance with increase of headache, another examination was made, with a speculum. The hysterical excitement was less, or rather there was more self-control, possibly because sleep had been better. The cervix was quite large, the canal bled very easily, the cavity of the uterus was a little longer than normal, there was considerable excoriation around the os, thick mucus extruded from the os. Tincture iodine and glycerine were applied. About a week later another application was made, and one or two more in the next month. The congestion and excoriation were much relieved. The headache and backache were better and the patient slept much better. For a month she had only one or two sleepless nights, hypnotics were not given during a part of this time.

This case presents many points of interest. The hereditary tendency is moderately marked. The sleeplessness began at about the full establishment of the catamenia. The hysterical character of the symptoms was very well marked. Onanism was suspected but denied by patient.

Hypnotics were only of temporary benefit and the

milder kinds were of more continuous service than the stronger. The influence of the uterine disease upon both the headache and sleeplessness, was clearly defined. No remedy proved of much value until that was treated, the best results were obtained by combining with such treatment, aconitia, which restored the tension of the bloodvessels. During a large part of patient's stay in the asylum the arterial tension, as shown by sphygmograph, was much diminished. A few times, when she slept comparatively well, the tension was rather better, though this change was not constant.



December 23.



December 24.



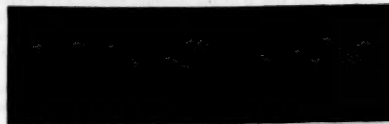
December 31.



February 4.



February 26.



April 29.

The tracings of December 23d, 24th, were taken after sleeping poorly, the latter the day after a dose of urethan, that of December 31st, was also taken after a dose of urethan, and does not show the same irregularity.

The tracings taken February 4th, 26th, and April 29th, were taken after uterine treatment was commenced, sleep was better and more natural; the last tracing was made while she was taking aconitia.

## RECENT PROGRESS IN CARE OF THE INSANE.

BY WALTER CHANNING, M.D.

### DEVELOPMENT OF THE COTTAGE SYSTEM OF PROVISION FOR THE INSANE.

THAT there is a world of transition and progress has shown itself in the care of the insane, as strikingly, perhaps, as in any movement during the last fifty years, instituted for the benefit of the helpless, or dependent classes.

Fifty years ago the population of the country was comparatively small; there were few lunatic asylums, and but little knowledge of the proper treatment of the insane. The proportion of this class to the community was practically unknown, as every lunatic was regarded as a family disgrace, and was hidden away and abused in the bosom of his family.

The ignorance and superstition then prevailing, which as usual went hand in hand, naturally prevented the proper provision being made adequately, as far as actual number went, for the existing cases of insanity.

Only fifty-eight years ago the first lunatic hospital, north of the Ohio River, was built, and that was the Columbus, Ohio, Hospital.<sup>1</sup> This was owing, however, largely to the newness of the country, though it is fair to presume not entirely.

If we take a period as nearly as possible of fifty years ago, we find that there was at that time a mere handful of asylums. This handful consisted of the asylum at Williamsburg, Virginia, opened in 1773, the first in America; a second at Staunton in the same State; the insane department of the Pennsylvania Hospital; Bloomingdale Asylum in New York; Friends' Asylum, Frankford, Pa.; Mt. Hope Asylum, Maryland; McLean Asylum, opened in 1818; Hartford Retreat; Vermont Asylum; South Carolina Asylum; Kentucky Asylum; and the Worcester State Lunatic Hospital opened in 1833.

There were in addition to these some private asylums, but excluding almshouses, no institutions of any size.

The first concerted and organized movement made, for the better care and treatment of the insane in institutions, may be said to date from the first meeting of insane asylum superintendents. I do not mean to say that previous to this time the condition of the insane had not changed considerably for the better, but organized, scientific action toward improved asylum construction and management, had not been possible.

This first meeting was held in 1844, at which time there were supposed to be twenty-five hospitals for the insane, thirteen of which were State hospitals. The total number of insane provided for was about fifteen hundred. If there were seventeen thousand insane

<sup>1</sup> Progress in Provision for the Insane. Dr. W. W. Godding.

persons in the whole population, or one to a thousand,<sup>2</sup> we see that less than a tenth were provided for. In considering these figures, however, we must always make allowance for their probable unreliability, as I have already intimated.

Taking the census of 1880, we find one hundred thousand insane persons, with nearly forty-one thousand of this number provided for, or two-fifths of the entire number, against one-tenth in 1844. Whereas in 1844, the number provided for may have been a fair indication of the confidence felt by the public in institution provision for the insane, the present figures are entirely misleading, as undoubtedly from one-half to two-thirds of the insane would be placed in institutions, if there were room for them. But the melancholy fact of the case is, that the insane hospital accommodation is miserably inadequate in this country, in almost all States.

This state of affairs is not owing to a lack of intelligent appreciation of the modern methods of care and treatment of the insane on the part of the public, though insanity is still viewed by many as a moral disgrace, rather than a physical disease, and lunatic hospitals are sometimes spoken of as prisons. It is largely due to the stupidity, narrow-mindedness, and timidity of legislative bodies. The members of these bodies seem to lose all freedom of judgment and action when elected, and are controlled by traditions, which make it next to impossible for them to appropriate money for any purpose, however good, unless political pressure is brought to bear on them. For this reason, more than for any other, thousands of the insane are at this moment exposed to suffering and sorrow, which it is sad to think of. Human sympathy is almost dead in the breast of the average legislator. He counts no cost but the money cost. If hospital care costs more than almshouse care, nothing more need be said to him; the almshouse is good enough.

As I have already said, the better hospital care and treatment of the insane began in 1844, with the organization of the Association of Insane Hospital Superintendents. These men were practical men, of scientific and executive ability combined, and they bent their energies largely to the construction of buildings for the insane. This was the precise direction at that time in which such energy was needed.

The first fruits of their deliberation appeared in their so-called "propositions" of 1851, which we can criticise easily enough now, but which were admirably suited to the time when they were promulgated. Dr. Kirkbride was largely responsible for these dicta, which showed him to be in advance of the time.

I have no intention of doing more than to allude to such of these "propositions" here, as have reference to building in general, that I may be able to contrast the changes and advances made in the general provision for the insane.

Proposition five, stated that "The highest number that can be treated with propriety in one building, is two hundred and fifty, while two hundred is a preferable maximum."

Proposition nine, which specified that no apartments should ever be provided for the confinement of patients, or as their lodging-rooms, which were not entirely above ground, seems strange to the casual reader, perhaps, of the present day, but such rooms have undoubtedly existed in a number of asylums, and

can be found to-day in almshouses. They should be entirely abolished.

Proposition ten, stated that "no class of rooms should ever be constructed without some kind of window in each, communicating directly with the external atmosphere." Such rooms were frequently constructed in lunatic asylums and less than half a century ago, I fear, in some of them. They were a relic of the dungeon treatment of the insane. These rooms still exist for the custody of lunatics in almshouses, and are only an additional illustration of the danger of trusting the insane to almshouse treatment.

Propositions fourteen and fifteen, provided that a large hospital should consist of a main central building for administrative purposes, and the wings for patients.

An additional set of propositions was adopted in 1853. This was chiefly in reference to the duties of the hospital staff (the word hospital was not much used in reference to the insane until 1850) and the employees.

In 1866 several important propositions were adopted, which, in the light of the twenty-one years' experience since, have been found to be, in the main, sound and true. These were chiefly in regard to the care of the chronic insane. The position was taken that the curable and incurable should be provided for in the same institution, the States being divided up into sections of convenient size, to furnish patients to a local hospital.

This method of provision is much the most satisfactory and convenient for the friends of patients, and for various other reasons, in general the best of all plans so far advocated. Many exceptions have, however, been made, and are still being made to the plan, partly by theorists, and partly by economists, who think of the cost first and the patient's welfare second. Perhaps the most notable exception, and in the early stages, largely in the nature of experiment, was the Williard Asylum for the Insane, at Ovid, New York, opened in 1869 for the custody of the chronic insane.

The Williard Asylum was the result of a combination of circumstances, which made it a possible success from the first. The poorhouses of New York were running over with unfortunate lunatics exposed to ignorant, and often inhuman treatment. They constituted a mass of old cases for which some better provision must be made. An immense institution, managed strictly on insane hospital principles, was what was needed, and Williard exactly fulfilled these conditions.

This asylum now contains more than eighteen hundred patients, and may, perhaps, grow to even larger proportions. No one can consider the history of the Williard Asylum, without a feeling of thankfulness that many thousands, of the most helpless and pathetic class in the community, have been saved from a life of suffering and misery, in the ghastly New York poorhouses, and made comfortable, and in many cases happy. But the Williard Asylum had an exceptional work to do, and its having done that work wonderfully well, in no way changes the exceptional character of the circumstances. The rule is proved by the exception.

The trustees, and superintendent Dr. P. M. Wise, both consider this point in their last report.<sup>3</sup> The latter says: "As a fundamental proposition, the divi-

<sup>2</sup> Progress in Provision for the Insane. Dr. W. W. Godding.

<sup>3</sup> Report of the Williard Asylum for 1886.

sion of the State into districts with an asylum in each district, located with a view to give easy access to the largest number seeking its accommodations, with hospital facilities for the recent, and capacity to care for the chronic insane as they accumulate, would seem logically correct. . . . Drs. Chapin and Cook advocated virtually a similar proposition nearly a quarter of a century ago. . . . In the meantime there have grown to completion, or nearly so, four State hospitals for the recent, and two great asylums for the chronic insane, located apparently without regard to future districts."

Hence, Dr. Wise thinks, that it would be unwise and embarrassing to change the general policy of the State, and he would advise the sending of chronic cases only to the Willard and Binghampton asylums. The trustees in general endorse the superintendent's arguments, but go farther, and suggest, that when all the asylums are completed and filled, buildings for the chronic cases can be erected on the grounds of those institutions now receiving presumably recent cases. This they think would be better than restricting the State.

It is safe to say, they suggest, what will eventually be done, as the most expedient plan for furnishing further provision. At a still more remote period, however, the State must be restricted, and all hospitals and asylums receive all kinds of cases. This may be one of those so-called questions of time, but it is none the less inevitable.

Another proposition adopted in 1866, though not unanimously, was to the effect that an institution "may" be enlarged to a point sufficient to receive six hundred patients. This, it will be observed, is a radical change from the dictum of 1851, which allowed a *maximum* of two hundred and fifty. Such a change of opinion showed that it was necessary to modify ideas to keep progress with the times, to say nothing of expediency. The insane, as well as institutions for them, were multiplying with unexpected rapidity, and either hospitals must be made larger, or a large number would be left unprovided for.

A point generally insisted on in these excellent propositions, was the need of elaborate classification. In the first set of propositions, eight sets of wards for each sex were recommended, and again in 1866, the importance of classification was emphasized.

To meet all the requirements in the case of the insane, such as convenience of access, light, heat, ventilation, classification, a main building with wings was designated in the propositions, and this plan was followed and developed, until it reached its climax, and turning point, at least in New England, in the hospital of the type of that at Danvers.

This hospital was intended to be the perfect embodiment of the practical experience and wisdom contained in, or deducible from the above proposition. Such it appeared to be in the early stages, but the unfortunate location, the poor construction, the deficiency in details, and the immense cost in proportion to the number of inmates, justly gave rise to criticism of this form of insane hospital architecture; primarily in regard to cost, and secondarily in regard to its adaptability to the purpose for which it was intended.

The latter criticism had already been frequently made of the close, congested, or linear type of hospital, and the erection of such palatial structures as the Danvers building gave fresh zest to the subject.

As is well known, a large proportion of patients entering insane hospitals, are cases of over two years' duration, or in other words, cases liable to remain as incurables. In view of this fact, as well as in view of the limited hospital accommodations all over the country, the great cost of the congested buildings, and the difficulty of obtaining the needed appropriations, the question of some different, and less expensive plan of building presented itself with renewed force.

The necessity of the old form of building was further shown to be less absolute than had been supposed, owing to the general advance made in the care of the insane. Mechanical restraint was rapidly lessening in amount, and with it, the bolts and bars and prison-like arrangements in other directions. It was found that insane patients could in many cases sleep in ordinary rooms, surrounded by ordinary furniture. They could take their meals together in large numbers, could sleep in large dormitories, and be trusted at large in the grounds without fences, or expensive stonewalls, which were earlier regarded as a necessary safeguard.

The next step taken was to apply this added knowledge in a practical direction, which was done by putting up detached buildings. These were first used for small numbers of selected cases, and regarded with some distrust, as experimental. So satisfactory were these buildings, however, that they were multiplied and duplicated in different parts of the country, until finally the hospital buildings at Kankakee, Illinois, were laid out on the so-called "village plan."

These buildings have already been described in the JOURNAL, but as many changes have taken place since they were last spoken of, it will be interesting to again refer to them.

The first point of interest in the history of this hospital, is the fact that its capacity was increased in less than two years from six hundred and thirty-nine to fifteen hundred patients, by the erection of new buildings. The superintendent, Dr. R. Dewey, thinks that no institution in this country has increased in number at an equally rapid rate.\*

The entire capacity of the institution is now sixteen hundred patients. The general plan of the buildings is a small linear building on the old plan, with a capacity of three hundred and seventy patients.<sup>5</sup> The balance of the patients are divided up in separate cottage buildings, scattered about on regular village streets. These buildings accommodate from thirty-three to one hundred and sixty patients. There are eighteen of them in all, accommodating twelve hundred patients.

Among the various detached buildings are infirmaries for each sex, bath-houses for each sex, an amusement hall, dining-room, kitchen, etc.

There is a fire-department annex connected with the male bath-house. This department has been perfected since the destruction of the South Infirmary by fire in January, 1885, when seventeen patients lost their lives. At the time this fire occurred, "the appropriation for fire apparatus had only been sufficient to put up the hydrants and lay the mains for bringing water to them, and in doing this a considerable additional amount had been used from the ordinary fund." Here again is an instance of the lamentable, and it

\* Illinois Eastern Hospital for the Insane. Biennial Report, 1885-6.

<sup>5</sup> Two sections of this building are semi-detached.

would seem, inexcusable tardiness of legislatures in making the most important appropriations.<sup>1</sup>

There are four hose-carts and a hand and ladder-cart in the fire-department building. There is a tower in the building in which is placed a bell, and in this tower the hose can be hung to dry. There is a central telephone station where a watch is kept day and night. From this station signals can be given for putting on pressure at the water-works, notifying the fire-department, etc. Scattered about the buildings are fifty-seven hydrants. Altogether the arrangements appear to be ample to prevent another large fire.

(To be continued.)

## REPORT ON MEDICAL CHEMISTRY.<sup>2</sup>

BY WILLIAM B. HILLS, M.D.

### THE RELATION BETWEEN UREA, PHOSPHORIC ACID, AND SUGAR IN URINE.

Bretet<sup>18</sup> has analyzed the urine of a large number of patients affected with diabetes. The quantity of phosphoric acid eliminated during the twenty-four hours was, on the average, one-tenth that of the urea. It fluctuates with the latter, but is much less affected both by the disease and by the treatment; thus, when the urea is a third less or a third more than the average normal quantity, the phosphoric acid deviates from the normal only by a sixth or a fifth, rarely a fourth.

No relation was found to exist between the sugar and phosphoric acid eliminated. According to the author phosphatic diabetes or phosphaturia is extremely rare. He estimated the phosphoric acid in the 24 hours urine of 798 persons. In 39 cases only the phosphoric acid exceeded four grammes. In 31 cases the amount was between four and five grammes; in 7 cases, between 5 and 5.6 grammes; in 1 case only, as high as 7.2 grammes. According to Bretet the elimination of sugar bears no relation whatever to that of the other urinary constituents.

#### SUGAR.

H. Molisch<sup>19</sup> describes the following new reactions for the detection of sugar: One-half to one cubic centimeter of the solution to be tested is mixed with two drops of a fifteen to twenty per cent. alcoholic alphanaphthol solution, and an excess of concentrated sulphuric acid is added. Upon shaking, in the presence of sugar, a deep violet color is developed, and upon dilution with water a violet-blue precipitate, soluble in alcohol and ether with a yellow color, or in potassium hydrate with a golden-yellow color, is obtained. If the alphanaphthol is replaced with thymol a deep red color is produced, and upon dilution with water a carmine-red flocculent precipitate, soluble with a pale-yellow color in alcohol, ether, and potassium hydrate, but with a bright yellow color in ammonium hydrate. Most kinds of sugar answer to these reactions; inositol, however, does not. Most glucosides respond sooner or later to the tests; indican is an exception. Urea, creatinine, xanthin, uric acid, allantoin, hippuric and succinic acids, phenol, and pyrocatechin

all give negative results. These tests are, according to Molisch, far more delicate than any other known tests for sugar, detecting the latter in solutions containing only 0.00001 per cent. Normal urine responds to these tests even when diluted with 300 volumes of water. Molisch considers, therefore, that the presence of sugar as a constant constituent of normal urine can no longer be doubted.

To distinguish normal from diabetic urine, Molisch recommends the following proceeding: (1) Dilute a specimen of normal urine and one of the urine to be tested for sugar with 100 volumes of water and compare the colors resulting from the application of the tests. (2) Dilute two similar specimens with 300 or 400 volumes of water. The diabetic urine will still respond to the test, while normal urine fails to respond under this degree of dilution.

Seegen<sup>20</sup> has submitted these tests to a careful examination with the following results: Sugar solutions containing 0.05 per cent. gave both reactions distinctly. Solutions containing 0.01 per cent. sugar gave with thymol a dark sherry-yellow color, with alphanaphthol a faint violet tint; but on dilution with water no precipitate was formed. The tests are therefore less delicate, according to Seegen, than Trommer's test. Normal human urine gave the reaction as described by Molisch. When the urine was diluted 100 times, a light red or violet color was obtained but no precipitate. Urea and uric acid gave negative results with both tests. But various animal substances and secretions, and chemically pure albuminous bodies, for example, peptone, egg albumin, serum albumin, and casein, all gave the reactions. These reagents, therefore, are of no value as tests for sugar alone, and Molisch's conclusion that sugar is a normal constituent of the urine is not justified.

In answer to Seegen, Molisch still maintains that his reagents are more delicate as tests for sugar than the Fehling's solution. In dilute solutions it is necessary to employ a small quantity of solid alphanaphthol in place of naphthol solution. With reference to albuminous bodies Molisch says that while these may give results resembling somewhat those obtained with sugar solutions, still the precipitates obtained upon dilution with water are, excepting in the case of peptone, all of a different color (dirty yellow or yellowish brown), from those produced with sugar solutions. Besides, they are all soluble in hydrochloric acid with a carmine-red or reddish-violet color, while the precipitate obtained with sugar solutions is insoluble in hydrochloric acid. Molisch now states that in place of sulphuric acid, hydrochloric acid may be employed in these tests, the mixture being subsequently boiled for a minute. Fibrine, vitellin, serum-albumin, egg albumin and peptone do not give the reaction when hydrochloric acid is used. Normal urine gives the reaction when boiled with alphanaphthol and hydrochloric acid, even if diluted ten times. Molisch still asserts that normal urine must contain sugar, or, otherwise, some body as yet unknown.

R. v. Jaksch<sup>21</sup> employs phenylhydrazine for the recognition of sugar. When a solution of hydrochlorate of phenylhydrazine, containing also sodium acetate, is added to an equal volume of urine and the mixture warmed for twenty minutes over a steam-

<sup>1</sup> Concluded from page 329.

<sup>18</sup> Journal de Pharmacie et de Chimie, 1887, p. 145, from Journ. des Connaissances Médicales, December 16, 1886.

<sup>19</sup> Archiv der Pharmacie, 1886, page 213, from Monatsh. f. Chem., 7, page 216. See also Centralblatt für die Medicinischen Wissenschaften, 1887, pages 34 and 48.

<sup>20</sup> Biennial Report.

<sup>21</sup> Centralblatt für die Medicinischen Wissenschaften, 1886, pages 788 and 801.

<sup>22</sup> Centralblatt für die Medicinischen Wissenschaften, 1886, page 708, from Zeitschr. f. Klin. Med. 21, page 20.

bath, there is obtained, in the presence of sugar, a yellow precipitate composed of needle-shaped crystals (a compound of phenylhydrazine and sugar). The melting point must be  $204^{\circ}$  C. Normal urine gives a negative result with this reagent. This test, according to the author, is more delicate than the ordinary tests for sugar. It does not react with other reducing substances besides sugar which occur in urine. Albumin, if present, must first be removed. The author found that the urine, in diseases of the liver, rarely contained sugar. The reducing urines passed after the administration of benzoic and salicylic acid, and in cases of poisoning by potassium hydrate and sulphuric acid did not contain sugar. Traces of sugar were found in the urine in cases of high fever; especially large in cases of ulcerative endocarditis. Sugar was found in the urine in three cases of carbonic-oxide poisoning, and in two cases of asphyxia following the inhalation of other poisonous gases.

Prof. Ottomar Rosenbach<sup>2</sup> has adapted the principle of the fermentation test, which theoretically is the most reliable means of discovering the most minute quantities of sugar, to the practical purpose of detecting sugar in the urine. A small quantity of the urine under examination, the reducing effect of which in a measured quantity of Fehling's solution (one cc. of the urine in an equal volume of Fehling's solution, whereby an incomplete reduction proves the presence of less than one-half per cent. of sugar) has previously been tested, is boiled, after the addition of a few drops of tartaric acid, which prevents the precipitation of the phosphates. The urine after cooling is divided into two portions. To one of these a small quantity of yeast is added and this portion is kept in a warm place. If after a few hours equal portions of each specimen be taken and each be tested with an equal quantity of Fehling's solution one of these as before, will reduce the solution, while the other, proportionate to the degree of decomposition of the sugar will give either a perfectly negative or at any rate a noticeably weaker result; so that a simple comparison of both solutions will show the difference. By this method extremely minute quantities of sugar will be detected with certainty as proved by Rosenbach's experiments on diabetic urine and on normal urine, to which traces of sugar had been added. The presence of albumin does not interfere with the application of this test.

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<sup>2</sup> The London Medical Record, February 15, 1887, page 68, from *Der Fortschritt*, April 5, 1886.

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### Clinical Memoranda.

#### BERI-BERI: A BRIEF ACCOUNT OF OUTBREAKS IN THIS COUNTRY AND OF SOME RECENT CASES NOT HITHERTO REPORTED.

BY FREDERICK C. SHATTUCK, M.D.,  
 Visiting Physician, Massachusetts General Hospital.

UNDER the head of "A Curious Endemic" I reported in the *JOURNAL* of October 27, 1881, an outbreak of disease on a Provincetown bank fisherman. Out of a crew of nineteen, fifteen were attacked by sensory and motor disturbances and oedema, beginning in the legs and extending upwards a variable distance on the trunk: two of the cases came under my observation in the Out-Patient Department of the Massachusetts General Hospital. No satisfactory cause could be assigned for the outbreak, and I was quite in the dark as to the nature of the malady from which the man suffered. Dr. Costello, of Vevay, Indiana, seeing the report, wrote to the *JOURNAL*<sup>1</sup> suggesting that the disease was beri-beri. This suggestion I could not at the time accept, for the reason that, as far as was known this disease was confined to the tropics and had never been known to originate in this country. The only recorded cases which I could find as having been seen in this country were in the Marine Hospital in San Francisco in 1880, and came from a Brazilian man-of-war.<sup>2</sup>

Subsequent reflection and events have convinced me that Dr. Costello was right and that the disease which broke out on the *Nellie Swift* was beri-beri. This outbreak, however, to the best of my knowledge and belief — and I have followed the question with some care since then — remains to-day the only one recorded as having originated in these latitudes. The fishing vessel on which it occurred was engaged the previous winter in the West India fruit trade; but other vessels of the same class had been similarly engaged in previous and the same years without any such consequences. Within the last four months the experience of the *Nellie Swift* has been brought freshly to my mind in the following way:

Dr. Séguin<sup>3</sup> reports three cases of beri-beri, originating in Cuba, the Isthmus and Brazil.

Again, Dr. Roosevelt<sup>4</sup> reports cases from the *Henry S. Sanford*, which sailed from Hong Kong for New York, July 20, 1886. Twelve out of eighteen were attacked and several cases were fatal. Some of the crew were treated in New York hospitals.

<sup>1</sup> December 15, 1884.

<sup>2</sup> Marine Hospital Report for 1881.

<sup>3</sup> *Phila. Med. News*, December 15, 1886.

<sup>4</sup> *Medical Record*, February 19, 1887.

Again, very recently, Mr. F. W. Anthony, of the Harvard Medical School, brought to me a sea-captain, a fellow townsman of his, who was the subject of a strange malady, to which none of the physicians whom he had seen could give a name, but which Mr. Anthony, fresh from preparing for a recitation including the subject of neuritis, suspected to be of that nature.

Captain R., sailed from Singapore for New York, July 10, 1886, after a stay of eight weeks at that port, during which time the officers and crew eat and slept aboard the ship. All went well until September 20th, when the second mate began to have swelling and numbness in the legs, without pain, accompanied by vomiting and loss of appetite. His countenance was natural, his tongue was clean, and the pulse was not markedly quickened. At first he kept about his work as usual, then had to give up in part, and November 9th he was obliged to take to his bed. November 16th he died, the swelling and numbness gradually making their way up to his chest before death. There was no delirium and until near the last he looked well in the face.

The first mate began to complain of the same symptoms October 20th, grew rapidly worse, gave up work November 1st, and died November 7th. The pulse was about 70, the tongue was darkly coated in the centre, and for two days before his death he was delirious.

October 25th, the captain's legs began to swell and grow numb and weak, but he had no vomiting. The swelling gradually increased and mounted, with impairment of sensation which was especially marked over the region of the bladder, and muscular weakness. It became difficult for him to move his head, but he succeeded in navigating the ship until he reached New York, toward the last of November. Since then he has been slowly improving, but is not yet well enough to resume his occupation. He is a temperate man, and of great bodily vigor, but when I saw him, March 20th, there was slight œdema of the legs with impaired sensation and muscular weakness. A slight patellar reflex could be obtained. Weakness in the arms was also noticeable. The urine was normal and, apart from a somewhat rapid pulse, a general examination was negative. On the arrival of the ship in New York, five of the crew entered a hospital with the same symptoms as had been presented by the officers, and three died.

Captain R. has of late been somewhat disposed to attribute the illness to canned string-beans, of which the officers eat freely, and which were sometimes of bad color. After the death of the mates he ordered the steward to give the beans to the crew. It seems, however, perfectly clear that the disease was a multiple neuritis, and that form of this affection which is called *beri-beri* in India, *kakke* in Japan. This conclusion seems to be placed beyond reasonable doubt by the outbreak on the *Henry S. Sanford*. Captain R. also told me that he heard of similar cases on a ship arriving in New York about the same time from the Philippine Islands.

It seems to me important that wide publicity should be given to these cases, so that physicians at our seaport towns may be on the lookout for them and promptly recognize their nature. It may well be that cases have occurred from time to time for years. It is only of recent years that the existence of such an affection as multiple peripheral neuritis has been known.

It is of special interest to note that the disease first appeared on the *Henry S. Sanford* and Captain R.'s ship, nearly three months after leaving port. The disease is endemic in portions, at all events, of Brazil, but the first case on the Brazilian man-of-war, to which allusion has already been made, occurred in Aden six months after the ship left Rio. The voyage was from Rio to Lisbon, thence through the Mediterranean, the Suez Canal, and the Red Sea. Between Aden and San Francisco there were a great many cases and eighteen were treated in the Marine Hospital at the latter city. The sanitary condition of the ship was reported as dreadful. Competent observers have studied the disease during life and after death, but I believe a Brazilian physician is the only one of these who considers it bacillary. The experience of these three vessels suggests that conditions favorable for the development of the disease may exist on the ocean as well as on land.

### A CASE OF HÆMOSPERMATISM.<sup>1</sup>

BY F. B. HARRINGTON, M.D.

In January, 1885, Mr. J. A., twenty-five years of age, a teacher in one of our institutions of higher education, a single man of good physique and of excellent habits, came for advice because of a slight enlargement of the epididymis of the right side. It caused slight pain after long standing or walking. The patient had never had gonorrhœa. The immediate cause of this epididymitis seemed to have been a long cold walk with insufficient clothing. Cold applications and a suspensory bandage soon brought relief to his trouble.

It transpired during the course of the questioning that there occasionally occurred a nocturnal emission which was reddish in color, and that the red color was also sometimes seen after straining at stool, and on one occasion after a cold sea-bath. There was no complaint of a frequent occurrence of these stained discharges, but they had caused the patient some anxiety.

About seven years ago the patient first noticed this discoloration of the semen. There occurred intervals during which there was no staining, and at no time were the losses frequent, occurring on the average once a month. Nothing about the patient or his condition suggested spermatorrhœa.

After the meatus had been snipped, a No. 29 French sound was passed with ease into the bladder, and caused no pain. There was no sensitiveness in the region of the prostate. Rectal examination showed no enlargement or tenderness of the prostate nor of the seminal vesicles. There was no pain on passage of urine or of semen, nor did movements of the bowels cause any distress. The patient had been accustomed to horseback exercise, but it never caused him any distress.

He was requested to bring any specimens which it was possible to save. During the course of several months the following specimens were obtained. Two pieces of cotton cloth stained a reddish-brown, cut from the night clothes, and a few drops of the fluid which were passed while straining at stool. This fluid

<sup>1</sup> Reported at a Meeting of the Surgical Section of the Suffolk District Medical Society on January 5, 1887.

was sent to Dr. Gannett, from whom I received the following report:

"March 12, 1886. The small specimen of fluid sent me on the 10th, shows, microscopically, numerous spermatozoa; a few red blood-corpuscles; a few granular nuclei; granules. It certainly deserves the name of a bloody seminal fluid."

The seminal fluid may be discolored in several ways. An admixture of pus changes its color from gray to white or cream color. An admixture of blood may change the color to a bright red, an orange, a light brown, a dark brown, or a dark red. A dark blue color<sup>1</sup> is occasionally seen, but its origin is not clearly understood.

The origin of the blood is generally believed to be in the seminal vesicles. An admixture may take place with blood from an inflamed urethra, but such a case would not be one of true hsemospermatisms. There are several causes for the appearance of the blood.

Vibert<sup>2</sup> says that slight capillary hemorrhages in the vesiculæ seminales are of frequent occurrence among the continent and among old men. The cause is here an over-distension and irritation of the vesicles.

Many authors (Lallemand, Ricord, Velpeau, Fournier, Gosselin, etc.), speak of bloody seminal fluid occurring after gonorrhœa. An extension of the inflammation to the seminal vesicles is a rare occurrence.<sup>3</sup>

Such inflammation is usually unilateral, affecting but one of the vesicles. By the rectum a hard or fluctuating mass can be felt, having the location and the general contour of the vesicle, but larger in size. There is pain on pressure and a constant dull pain which is increased by defecation, by micturition, by coitus, and emission.

Some authors claim that the blood comes from the epididymis or from the testicle, but it seems to be proven that the seminal vesicles are the usual source.<sup>4</sup>

A third cause, generally recognized by all writers upon this subject, is excessive coitus or masturbation. That such excess should lead to congestion and irritation is not surprising.

The character of the patient and his statements, lead me to believe that the cause of the blood in this case is over-distension of the vesicles. It may be possible that the discharge occurring at times after straining at stool, due probably to distension of the vesicles and to weakness of the ejaculatory duct, may have resulted from horse-back exercise.

The patient has been given fluid extract of ergot, and apparently with good results. The anxiety in the patient's mind has been allayed. He has been told that marriage instead of being contra-indicated, would probably be followed by a cessation of the symptom.

When we consider the moral effect upon patients of such bloody discharges, it is a little surprising that more has not been written upon the subject in our text-books.

Prognosis and treatment. In the continent and among old men, the condition, hsemospermatisms, is of little consequence. Marriage will probably be followed by a disappearance of the symptom in the former. The use of ergot seems to be followed by benefit in this case, and may be tried in all of this class.

In the second class, in which the blood comes from the inflamed vesicles, the symptom is liable to continue

as long as the inflammation lasts. Chronic inflammation of the vesiculæ seminales is of indefinite duration. To cause a disappearance of the symptoms which we are considering, we must cure the inflammatory condition.

In the third class, are those cases which result from excessive coitus or masturbation. Here to remove the cause is to effect a cure.

## Reports of Societies.

### SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

O. H. MONROE, M.D., SECRETARY.

MEETING January 5, 1887. DR. J. C. WARREN in the chair.

DR. GEORGE W. GAY reported a

#### CASE OF CHRONIC CYSTITIS IN THE FEMALE RELIEVED BY AN UNUSUAL OPERATION.

A widow, forty-eight years of age, had suffered more or less from cystitis for fifteen years, before coming under Dr. Gay's care. The symptoms were frequent and painful micturition; mucus, pus and phosphatic gravel in urine. There was very little pain in the region of the kidneys and ureters throughout the disease.

The treatment of the patient was varied and, as is frequently the case, the result was unsatisfactory to a great degree, until a resort was made to an operation described below. In the first place a trial was made with irrigation, a stream of warm water, medicated or not as seemed best, was allowed to flow slowly through the bladder for four, six, or even eight hours a day for six weeks. The symptoms improved temporarily under this treatment, but it finally caused so much pain, that it had to be abandoned. The urethra and meatus were then forcibly dilated sufficiently to admit the forefinger. The relief following this procedure lasted only two or three weeks. An artificial vesico-vaginal fistula was then made with Paquelin's cautery, but it was impossible to keep it open for any length of time, even after removing a section of the tissues about the fistula. Anything placed in the opening to keep it dilated soon became encrusted with the triple phosphates, and caused so much irritation, that it had to be removed. The parts were too sensitive to allow the patient to dilate the fistula with her finger, as is sometimes done. Finally the symptoms became so distressing, that opium failed to give any relief. The patient had chills, emaciation, delirium, and vomiting, and dissolution seemed near at hand, when as a last effort the following operation was performed: With a pair of strong scissors heated to a black heat all the tissues between the vagina below, and the bladder and urethra above were divided from the meatus to the cervix uteri, thereby laying open into one large cavity the vagina, bladder and urethra. The hemorrhage was unimportant. The object of this operation was to prevent the urine from collecting and remaining for any length of time anywhere between the kidneys and the meatus. This object was fairly well attained. The parts were very sore and painful for three or four weeks, but after that time she began to improve, and finally became able to ride, to go shopping, and on the whole, she enjoyed herself a good

<sup>1</sup>O. Guelliot. *Annales des Maladies des Organes Génito-Urinaires.*

<sup>2</sup>Nouveau Dict. de Méd. et de Chir.

<sup>3</sup>Van Buren and Keyes.

<sup>4</sup>O. Guelliot. *Annales de Dermat. et de Syph.* 1863, p. 204.

deal during the remaining four years of her life. She finally died after a fortnight's illness from vomiting, diarrhoea and coma.

Dr. Gay wished it to be distinctly understood that he advised this operation only in those desperate cases in which all other measures had been faithfully tried in vain, and in which death seemed inevitable, unless relief could be given within a short time. Under those circumstances he would not hesitate to resort to it again; should be satisfied if he succeeded in giving the patient as much relief as was obtained by the one reported above.

In conclusion, Dr. Gay expressed the wish that the discussion be not confined to cystitis in the female, as the same principles of treatment apply to the disease in both sexes. He stated that at the time this case was under his treatment the only antiseptic much used was carbolic acid. This he had tried in injections, but had found that hot water answered the purpose somewhat better.

Dr. E. W. CUSHING spoke of the great value of injections of bichloride of mercury (1 to 1500 or 2000) followed by iodoform emulsion in arresting fermentation, which fermentation he considered to be the element in the disease which we should especially attack. The emulsion was to be made by shaking up iodoform with gum-water and glycerine.

Dr. H. L. BURRELL remarked that in his experience with iodoform emulsion was confined to one case, and that in the male. He considered that caution was necessary in its use, and stated that iodoform once in the bladder was difficult to remove. To remove the iodoform used in his case required six or seven washings.

Dr. O. K. NEWELL called attention to the value of the *porte-remede*, of Dr. Dittel of Vienna, by means of which iodoform could be introduced into the bladder.

Dr. C. P. STRONG spoke in favor of injections of a saturated solution of boracic acid every day or two.

Dr. GAY spoke of the great benefit he had obtained in cases of phosphatic gravel from the daily use of good, hard cider. In several cases in which it had been necessary to remove calculi, every six or eight months with the lithotrite the gravel had ceased to form at all, even to collect under this treatment, and the patients had been relieved of their former troubles to a great degree. No drug in Dr. Gay's experience had produced such happy results in those cases, and he thought it deserved a further trial.

Dr. J. C. WARREN had operated twice for the production of an artificial opening in the female bladder in cystitis. There is no danger of an incurable fistula in these cases, as the chief difficulty lies in keeping them open. The edges of the mucous membrane of the bladder were stitched to the edges of the vaginal membrane to prevent closure. In one of these cases had he followed the patient through the treatment: a complete cure had resulted and the fistula was closed at the end of a year.

Cystotomy for the radical cure of enlarged prostate is an operation at present interesting to surgeons. It is chiefly employed to give good drainage to bladders which are so far advanced in disease as to resemble a pus cavity, but the sphere of this operation is likely to be extended in the future.

Dr. Warren did not use the double current catheter as the amount of liquid at one moment present in the bladder could not be so well regulated as by other

methods. Sir Henry Thompson limits the amount to four ounces, and prefers two ounces. The speaker had seen bad results follow the attempt to inject a larger quantity. Boracic acid is a valuable agent for this purpose; a four per cent. solution, which is not quite a saturated solution, is the strength commonly used.

The care of the catheter is one important point in the treatment. Custom varies greatly in this respect. During temporary use of the catheter, as in females after operation on the genitals, it is customary to keep the instrument submerged in an antiseptic solution when not in use. Such constant scrupulous care becomes difficult when it is necessary, as in a case of enlarged prostate, to use the catheter several times daily, perhaps for a lifetime. Thorough disinfection before and after use may, however, have a more important influence upon the future of a diseased bladder than the most elaborate internal medication.

Dr. E. H. BRADFORD stated that in two cases of chronic cystitis in the male which he had treated by drainage through a perineal incision, the relief was marked. He also considered that the operation was a much simpler one than it is usually thought to be.

Dr. F. B. HARRINGTON reported a

#### CASE OF HÆMOSPERMATISM.<sup>1</sup>

Dr. M. H. RICHARDSON called attention of the Section to some observations he had made upon the

#### SURGICAL ANATOMY OF THE ŒSOPHAGUS,

already published, for the sake of inviting discussion. At a former meeting of the Section Dr. Cheever had asked what caused the difficulty in passing a probang into the œsophagus during etherization, having himself met with the same difficulty in four cases. By Dr. Richardson special dissections had been made to determine this point. It was found that the ivory bulb of the probang became lodged in the lower part of the pharynx at the beginning of the œsophageal tube in all subjects where the trial was made. Continued efforts at its passage resulted either in penetrating the larynx or in rupturing the pharynx. When guided with the thumb and forefinger outside the neck it was made to enter the œsophagus. This was demonstrated by introducing the left forefinger into the pharynx from below, by left œsophagotomy.

The explanation offered is that in etherization as in death the pharyngeal muscles are relaxed and do not grasp and guide the instrument to the œsophagus. The bulb point of the probang pushes the relaxed pharyngeal wall ahead of itself and makes a path from which it cannot make its escape, and through which it may be forced by too great effort on the part of the surgeon.

Dr. E. W. CUSHING remarks that this relaxation of the pharyngeal muscles possibly explained why the pharynx appeared to be so large during etherization, and was able to hold so much mucus.

Dr. RICHARDSON thought this highly probable, and stated that during etherization deglutition did not take place.

Dr. WARREN called attention to the difficulty in passing the stomach tube in cases of opium poisoning; and said that the expedient of hooking forward the larynx had to be occasionally resorted to.

Dr. M. H. RICHARDSON showed a specimen of

<sup>1</sup> See page 326 of the Journal.

## MULTILOCULAR OVARIAN CYST.

The case was first seen in consultation with Dr. McCollester, of Ayer, December 11, 1886. The history briefly stated was as follows: The patient was forty-six years old and married. She first noticed a lump in her abdomen six years before. For several years it gave her no discomfort. Three years ago it had grown to such a size that its weight and pressure seriously incommoded her. She then consulted certain prominent surgeons. After examination the diagnosis of fibroid tumor of the uterus was made, and no operation advised.

The symptoms continued to increase in severity, pain was more or less constant, and emaciation followed to quite a marked degree. Some weeks before Dr. Richardson's examination, Dr. McCollester aspirated the tumor, which was now very large and fluctuating, and withdrew a rosy, brown fluid.

On examination I found a tumor filling the whole abdominal cavity, fluctuating and symmetrical. The uterus was somewhat adherent to it. General condition of patient good enough apparently to justify operating. The urine had been examined repeatedly by Dr. McCollester and no albumen found.

Dr. Richardson advised careful nursing and feeding, with tonics, for a week at home, and then that she should come to Boston for operation, if able.

December 20th she was brought to St. Margaret's, having borne the journey quite well, but still too weak for immediate operation. She was stimulated and fed, with rest and tonics, under which treatment she began immediately to improve. The operation was postponed from Wednesday, December 22d, to Thursday, if by that time she seemed strong enough to undergo it. Wednesday morning she was much stronger, and everything looked favorable for an operation the following day. At 8 A. M., she suddenly became comatose and died the next noon, with almost complete suppression of the urine.

Autopsy five hours after death. The tumor was found to be a multilocular cyst of the right ovary, attached everywhere by old adhesions. It was very easily shelled out of its attachments, however, and in doing this no vessels of any size were met with. The pelvic cavity was filled with one of the cysts and both ureters sufficiently obstructed to keep the pelvis of the kidneys distended with urine. The right kidney was much atrophied and both were in a state of parenchymatous inflammation. The uterus was normal in size. (Dr. Whitney.)

There are two interesting and important points connected with this case: the first is, the error in diagnosis (if we may believe the patient's story), made by experienced men. A tense ovarian cyst in close proximity to the uterus was mistaken for a fibroid tumor. An operation which at that time would have had every chance of success was therefore advised against. The second point emphasized by this case is the importance of early operations in ovarian tumors. This case was fatal because it was left too long. Had not the kidneys become already hopelessly diseased, the pressure on the ureters at the time of death was sufficient in my opinion to have caused at no distant day serious trouble in the pelvis of the kidney or in the kidney itself. Finally the adhesions which were found would probably not have been present at an earlier date, and the operation would have

been attended by much less risk. I am of the opinion that it is best to aspirate with a fine needle in all cases where the diagnosis of fibroid is not absolutely certain, and when the diagnosis of ovarian cyst is made, to proceed to its removal without delay.

## FORT WAYNE ACADEMY OF MEDICINE.

MEETING December 15, 1886.

Dr. G. W. McCaskey read a paper on

CLINICAL REPORT OF SIX MONTHS EXPERIENCE WITH THE PNEUMATIC CABINET, WITH TWENTY-SEVEN CASES.<sup>1</sup>

## DISCUSSION.

Dr. W. P. WHERRY. In cases where it is possible to accomplish anything the effect of cabinet treatment I believe to be beneficial. The pneumatic cabinet, I take it, is not a specific; but it is a very valuable adjunct, capable of aiding other treatment, and bringing patients on toward recovery. With its aid the class of incurable cases might be greatly narrowed. But while good results have been shown with this treatment it must not be forgotten that good results have been obtained without its use. But I believe that still better results can be obtained with it.

Dr. T. J. DILLS. I am glad to notice that Dr. McCaskey assigns the cabinet to the position of an adjunct to general treatment. As such it is undoubtedly entitled to recognition. In some of the cases which have been reported this evening the diagnosis does not seem to be fully sustained by physical signs, although I think that phthisis may exist without very marked physical signs.

Dr. CARL PROEGLER. I am pleased with the candid statements of the essayist, and think that good may result from the judicious use of the cabinet. The diagnosis should be made largely with the microscope, and should depend on the presence of the bacilli in the sputum.

Dr. M. F. PORTER. I would like to know whether Dr. McCaskey has carefully studied the vital capacity, and whether he has found it to vary as much as would be expected from the degree of consolidation present? Also whether there was any probable relation between the dysentery in the case mentioned (Case XIII) and the administration of the bichloride spray? The value of cabinet treatment could best be determined if those who were treating large numbers of cases would treat similar cases with the cabinet and without it, comparing results. I consider the cabinet a valuable acquisition.

Dr. MCCASKEY. In regard to the case of dysentery I do not think that it was due to mercuric chloride because the patient was convalescent from typhoid fever and had had persistent abdominal tenderness, which I think was due to incomplete healing of the enteric lesion. His son, aged twenty-seven, also convalescent from typhoid fever, had a similar attack of dysentery preceded by abdominal tenderness, although no mercury had been administered in any form.

I have been frequently impressed with the belief that the deficiency in vital capacity was not in proportion to the degree of consolidation. Some cases with slight lesions have greatly impaired vital capacity,

<sup>1</sup> See page 345 of the Journal.

while others with extensive lesions have a vital capacity greatly in excess of that which would have been anticipated. These discrepancies must depend largely upon the condition of the chest-wall, and probably are not greater than would be found among individuals with similar states of nutrition but not victims of phthisis.

The microscopical diagnosis of phthisis has a greater positive than negative value. The presence of Koch's bacilli must be regarded as pathognomonic; but it would be fatal procrastination always to wait for their appearance.

With reference to the diagnosis of certain cases with insufficient physical signs, I believe that the diagnosis of phthisis should be made in many cases much earlier than it is. If we are to attain satisfactory results and change the statistics of phthisis we must make early diagnosis. Whatever view we may take of the pathology of phthisis it must be conceded that the *very initial anatomical change* is inappreciable to the most skilled diagnostician by physical signs.

I am glad to notice that the judgment expressed in the opening remarks of the paper in regard to the relative position of the cabinet meets with approval. Nothing could be more deplorable than a tendency to elevate it to the position of a specific.

### Recent Literature.

*Diseases of the Lungs and Pleura, including Consumption.* By R. DOUGLAS POWELL, M.D., London, etc. 3d Edition. Rewritten and enlarged with illustrations. pp. 347. New York: William Wood & Co. 1886.

The title of the above work is somewhat misleading, conveying the impression that it is a complete treatise on diseases of the respiratory organs. The anatomy and physiology of the lungs and physical examination fill about fifty pages, pleurisy about fifty more, phthisis and its varieties one hundred and fifty, leaving less than one hundred pages for all other affections of the lungs and bronchi, and for the index. Broncho-pneumonia is dismissed in four pages, abscess and gangrene in two, oedema of the lungs in two more. In connection with the latter condition, no mention is made of the experiments by Welch showing that pulmonary oedema can be artificially induced only through paralysis of the left ventricle, the right continuing to act.

Thus the only two subjects at all exhaustively discussed are pleurisy and phthisis, others receive really less attention than in most of the standard works on the general practice of medicine.

We have no special criticisms to make on the chapters dealing with pleurisy and its treatment, except that the author, in speaking of free incision in empyema, makes no mention of one advantage of the Lister dressing in these cases; we allude to its valvular action, permitting the exit of air from the chest far more readily than its entrance, and thus materially aiding in the expansion of the lung as was first pointed out by Dr. A. T. Cabot,<sup>1</sup> of this city.

Among the rare cases mentioned by the author we note one of *right pulsating empyema*, and one of chronic serous effusion filling the left pleura, reaccumulating

after aspiration, but not impairing the usefulness of the owner, a policeman, during the four or five years he has been under observation. With regard to the bacillus tuberculosis the author takes a position of some reserve. "The characteristic lesions of phthisis are brought about by many causes, and furnish a soil upon which the tubercle-bacillus will readily grow. Epiphytic in nature, concomitant in time, neither the seed nor the fruit of the disease, it must nevertheless be allowed that the tubercle-bacillus takes an important part in the extension and conveyance of tubercular lesions."<sup>2</sup> Of phthisis he makes four varieties, the catarrhal, pneumonic, fibroid and tubercular. For diagnostic purposes the rapid staining of sputum by the method of Gibbs is considered all-sufficient. If the bacilli are abundant there is seldom any difficulty in detecting them by this method. If, however, they are few, and it is under precisely these circumstances that this aid to diagnosis is specially important, we have the high authority of Dr. Ernst for stating that Gibbs', in common with the other rapid methods, is not to be depended upon. Again, the author does not seem to be aware of the fact that Friedländer himself now agrees that the capsule in an accidental, not an essential part of his pneumo-coccus.

Having in a measure performed the duty of criticism, we can now allow ourselves the pleasure of praise, which is to be accorded especially to those portions of the book dealing with treatment, all marked by sound English sense, though sometimes less full than one has a right to expect in a work of so special a character.

F. C. S.

*Massage as a Mode of Treatment.* By WILLIAM MURRELL, M.D., F.R.C.P., etc. P. Blakiston. Son & Co., Philadelphia. pp. vi, 100. 1887.

It is but recently that we noticed the first edition of this readable little book. The second is much better arranged and has numerous additions. It calls attention to primitive and imperfect ways of doing massage, and insists on its proper administration, if satisfactory results are to be obtained. Like "Fat and Blood" this book will be read by patients as well as by physicians and doubtless through its influence many a chronic invalid who has come to a stand-still will insist on having massage tried, as the physician himself would, if he were the patient.

The second edition bears even a stronger resemblance than the first to its elder American cousin which it honors by quoting from more than from any other source.

D. G.

— Dr. Arthur Farre, F.R.S., died March 25th, at the age of seventy-seven years. He was honorary President of the London Obstetrical Society, Physician Extraordinary to the Queen, and accoucheur to Princess of Wales.

— A writer in the *Australasian Medical Gazette* describes a case of deafness of three weeks' standing, due to a cockroach in the ear. Until the offender was removed, the patient, an elderly woman, had no conception that she had been harboring any living creature, though she had had occasional sharp, stinging sensations in the ear. The remains of the cockroach, when washed out, were very offensive.

<sup>1</sup> Boston Medical and Surgical Journal, 1883, II, p. 145.

<sup>2</sup> Page 159.

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THE DOCTOR'S OVERCOAT.

THE doctor's overcoat may not look different from other overcoats and yet to an acute observer it tells the tale of its owner's daily life. No overcoat needs new buttons so often, or wears out so soon at the button-holes. Its sleeve linings melt away as soon as put in, and the doctor's wife uses it as a text on which to base a sermon for her good man's benefit, on the finfulness of unnecessary wear and tear of clothes, while the doctor himself, as he sees the newness of his outer garment disappear, sighs over the days of his youth when he did not feel it necessary to count the cost of his own garments in units of children's shoes and baby's diapers.

There are doctors who walk into the sick room with the overcoat closely buttoned about their forms, and thus save themselves the reproaches of their wives and miss the admiration of their tailors, but such visits are not often paid to the doctor's equals, and probably even less often to those whom he suspects may be his superiors. Occasionally when he visits a patient who is temporarily the occupant of limited quarters in a crowded hotel, he may escape the necessity of removing his outer garment, but even then his button-holes will hardly escape the inevitable wear, as he must take his prescription papers or his stethoscope from some inner pocket. The doctor may, however, wear his overcoat in the sick chamber in such a manner as to gain credit for unusual devotion, as when he runs in, in great haste, with his overcoat on, to make sure that Madame, the Lord Mayoress, can spare him for an hour to minister to the sufferings of the Marquis of Carabbas, but when he makes his daily call he will carefully remove his top coat before entering the sick chamber, and will seat himself by the bedside as though he expected to stay there for half the forenoon at least. That call finished, the overcoat is resumed and deliberately buttoned, while the exact condition of the patient is explained to the anxious relatives or the still more anxious landlady. At this point it is proper to signify that time is valuable, and the skilful

man will know how to say by the manner in which he buttons his coat and takes up his hat, "that, much as he desires to discuss the subject further, he has already done everything in his power, and unfortunately has no time for conversation." At each succeeding place the overcoat is removed and re-assumed until its buttons have been buttoned and unbuttoned some fifty or sixty or more times a day, according to the length of the doctor's visiting list.

It is an interesting question to consider whether it is possible to draw any inference as to the actual size of the doctor's practice from the state of his button-holes. Some acute observers have held that the physician who boasted of the extent of his practice, while his button-holes presented no sign of wear, must of necessity be guilty of prevarication, but the observer needs be careful how he draws such an inference without due knowledge of the relative resistance of the different fabrics from which top coats may be constructed, the strain to which the buttons are subjected by the accuracy of fit, the number of coats among which the wear and tear is distributed, and perhaps such other factors as the zeal with which the *frau doctorin* inserts the timely stitch which eludes observation and saves nine. Undoubtedly the practice is recorded in the button-holes, but to properly read the record would be possible only to those possessed of the special knowledge, at once of the manufacturers of woollen fabrics and of the intimate associate of the doctor's household. Public calamities and epidemics undoubtedly leave their traces, but written as it were in the sand, which the attrition of the often repeated buttonings of the daily routine, like the ebb and flow of the tide, entirely effaces.

It is a question of some importance with medical men of a thrifty turn of mind how to lessen the inevitable effect of daily use upon their button-holes, and various devices have been hit upon. The suggestion to do away with the outside garment entirely, except in weather of unusual inclemency, is not to be soberly regarded even for a moment; for, apart from any other consideration, the air of youth which attaches to an individual who wastes his body that he may save his clothes, would be a fatal barrier to the extension of his practice, and might finally compel him to dispense with shoes also. The adoption of a cloak which may be wrapped about its possessor without fastenings, would obviate many of the difficulties, but the cloak has become so exclusively the property of the stage brigand, that it would be impossible to recognize the merciful physician under so questionable a garb.

Perhaps the most feasible method yet suggested is that of dividing the buttons into sets or series or watches as the seamen are divided on ship-board, and using the different sets on different days, so that the first, third and fifth buttons shall be used on Monday, and those representing the even numbers on Tuesday. If the doctor is portly and his buttons consequently numerous, three relays or watches may be made. The double-breasted coat, by increasing the number of but-

ton—allows a still greater rotation, but the hidden button-holes of the single-breasted coat offer great attractions to those who feel that an evil is diminished when it is hidden from sight.

But why should you always remove your overcoat whenever you pay a visit, asks Madame, with an eye to thus diminishing the wear that she laments.

Ah! Madame, who is more appreciative than yourself of the air of deliberation with which your physician seats himself to study the unusual aspects of disease as manifested in the members of your own remarkable family? Could you describe the symptoms of the preceding hours with such accuracy of detail to a man whose dress showed that the necessity for hurrying on to the next patient was present in his mind even while he entered the room? Would not the overcoat tend to diminish the confidence you feel in your physician's care? The man who takes off his coat and goes to work at anything is popularly supposed to be terribly in earnest, and the man who attempts to solve intricate problems, and accomplish delicate manipulations involving human suffering and existence without taking off at least his overcoat might not unreasonably be suspected to be only half in earnest. The removal of the overcoat may be regarded as a sort of silent expression of the fact that for the time being the doctor's only business is to devote himself both intellectually and bodily to the patient before him. From the standpoint of his own welfare the doctor lessens the load he carries in ascending stairs by leaving his overcoat below, he adapts himself to the often too high temperature of the sick room and preserves for himself an extra covering when he regains the open air. He thus benefits both his patients and himself although he curtails the length of existence of his outer garment which, as it deteriorates till he is forced to lay it aside, cannot fail to remind him of the time when his tired soul shall lay aside its worn-out earthly garment to assume one which may not conform to the cut most in vogue at the present moment, but is constructed of most durable material.

#### ACADEMIC AND PROFESSIONAL COURSES OF STUDY.

THE aphorism that art is long and life is fleeting, impresses itself with a peculiar force, at the present day, upon the parents and guardians of young men, if not upon the young men themselves, for whom the usual academic course in Harvard College is merely preliminary to a subsequent course at one of the professional schools. Eleven years ago in his annual report, the President of the University said: "The average age of the young men admitted to Harvard College has been gradually rising during the whole of this century, until it has now reached a limit which had better not be exceeded." The average age had then risen six months in the preceding twenty years. Since 1875, however, the average age has risen four

months, students being now nearly nineteen years old when they enter, and nearly twenty-three when they leave the academic department.

Such a result is probably the inevitable consequence of the development of a College into a University, and of the attendant changes in methods of discipline and instruction and in courses of study. The serious drawbacks, however, entailed upon those subsequently training themselves for professional careers—drawbacks which are serious in proportion as that training is thorough—have for some years become more and more apparent. These drawbacks operate with especial force in the case of medical students as soon as any genuine attempt is made to raise the standard of medical education and to increase the requisites for a medical degree.

A young man who begins the study of medicine at twenty-three years of age, having previously secured his degree of A.B., is twenty-six years old before attaining the degree of M.D., (if only three years of study are required). Should he then gain a hospital appointment and spend a short time in other medical centres, or in travel—all of which are unquestionably desirable things to do—the age of twenty-eight or nine years will be reached before the actual practice of his profession and the attempt to become a producer instead of a consumer are begun. Such a person, in this country at least, is no longer a *young man*. The enthusiasm and elasticity which carry one through the inevitable drudgery and probable disappointments of the first struggle, are, to say the least, somewhat chastened.

Strongly impressed by these facts, and undoubtedly hampered by them in attempts to lengthen the medical course from three to four years, the Medical Faculty of Harvard University have recommended to the consideration of the Academic Council—a body representing the undergraduate department as well as the various schools—the expediency of granting the degree of A.B. to all undergraduates who shall subsequently take the longest course of study offered at the professional schools after three years' attendance (at the end of the junior year) in the Academic Department. The professional degree and that of A.B. to be given simultaneously at the end of the professional course, it being understood that the requirements of each have been fulfilled. The first year of a professional school would thus be made equivalent to the present senior year.

In his remarks supporting this recommendation, Dr. H. P. Bowditch, the Dean of the Medical School, showed from various tables and statistics, that foreign systems of university education enable students of medicine to enter upon their life-work at least two years earlier than is possible with us—even for those beginning to practice immediately upon receipt of a degree—and that this result is reached without any loss but with a positive gain in the thoroughness of the professional training.

In Germany, the best class of medical students begin

their professional studies at a little earlier age (18.4 years) than that at which young men enter Harvard College; the course of study lasts five years and the German physician is ready to begin practice before he is twenty-three and one-half years old. In England, four years are required to complete a course of medical study, and a large majority of English physicians begin the practice of their profession before they are twenty-four years old. In France, a complete medical course usually occupies six years, and a French physician usually begins to practice his profession at about twenty-four years of age.

Dr. Bowditch himself, and no doubt many share his view, is ready to go farther than the recommendation of the medical faculty to the council, and to advocate more radical measures. In his opinion, a simple consideration of the way in which the academic department has been developed in recent years will hardly fail to produce the conviction that, in all the changes which have there taken place—changes which have raised the age of graduation—the function of this department as a preparatory school for a professional career has been much less prominent than its other function of providing a liberal education more or less complete in itself. The question, therefore, suggests itself to his mind, whether an organization may not be devised which, while retaining whatever may be of value in the old method of compulsory training, shall permit the elective system to develop itself even more freely than it can under present arrangements. For such an organization he proposes:

(1) An academic course of three years with requirements so graded as to lead to the degree of A.B., at an average age of twenty years. (2) A philosophic course of three years with requirements so graded as to lead to the degree of A.M., or Ph.D., at an average age of twenty three years.

As Dr. Bowditch truly says, such an academic department would, in respect to the age of its students be very much what it was twenty-five years ago, and its graduates would be prepared to enter any of the professional schools, or to continue their course of liberal study under the direction of the philosophic faculty.

Such radical changes as are here suggested, will naturally excite antagonisms and could only be adopted after thorough discussion, which they certainly merit, for there is much to recommend them. On the other hand, the proposal that the first year in the professional schools may be counted as the fourth academic year, under certain contingencies, ought to commend itself immediately, and its adoption is, in fact, essential, if higher standards of professional education—especially of medical education—are to be made permanent and practically serviceable.

—There were 187 degrees of M.D. conferred at the sixty-second annual commencement of the Jefferson Medical College, Philadelphia, which was held April 5th.

## INTUBATION OF THE LARYNX.

It is almost too early to pass judgment as to the place which this new operation is to have in the therapy of the future. Is it destined to supersede tracheotomy in the treatment of diphtheritic affections of the upper-air passages?

Theoretically, it seems a simple matter with an applicator shaped somewhat like a male urethral sound, and the aid of the *tactus eruditus*, to pass over the back of the tongue, by the epiglottis, and into the wind-pipe, a little gold-plated tube, skilfully contrived exactly to fit the larynx, and with a collar to rest on the arytenoid cartilages, so that it will keep in place; practically, however, the operation (both the placing *in situ* and extraction of the tube) is one of singular difficulty, not comparable with laryngotomy in respect to the ease and facility with which the latter operation can ordinarily be performed; and we pity the practitioner, who, without considerable previous practice on the cadaver and on the healthy child, shall, for the first time, on a struggling and strangling infant, attempt to perform intubation with O'Dwyer's instrument.

Dr. O'Dwyer, however, deserves great credit for having brought before the profession a method of treatment, which, possessing none of the terrors which tracheotomy has to the common mind, must in certain circumstances, and in the hands of experts who are perfectly familiar with all the details, sometimes save life where, doubtless, every other means would fail. Nor can it justly be said that he has simply revived and improved upon the older process of Bouchut, which by its very clumsiness, and the impossibility of its meeting the indications required of it, had fallen into oblivion. Dr. O'Dwyer's cases now number something more than forty-eight; of these twelve, or one-fourth have recovered; a result which compares very favorably with the statistics of tracheotomy. Northrup<sup>1</sup> reports twelve cases, and claims five recoveries. Dillon, of the New York Foundling Asylum, has operated fifteen times, with five recoveries, Dr. F. E. Waxham, of Chicago, has published thirty cases of which fourteen recovered. Dr. Hance, of the Nursery and Child's Hospital, has reported five cases with one recovery. Jennings, of Detroit, has operated four times; all his cases died. He prefers tracheotomy, and says: "In my experience fully seventy-five per cent. recover after tracheotomy." Dr. Northrup in summing up the results,<sup>2</sup> gives a sum total of 165 cases, done to date, with 28.05 per cent. of recoveries; Chicago alone has furnished ninety-six of these cases with twenty-nine favorable results, or 30.02 per cent.

Since these reports were published, Dr. G. W. Mason, of Bloomington, Ill., has put on record three cases,<sup>3</sup> only one of which was saved. He thus sums up the advantages of intubation: "(1) It involves no

<sup>1</sup> New York Medical Record, Vol. 30, p. 467.

<sup>2</sup> Medical Record, December 11, 1896.

<sup>3</sup> Medical News, March 26, 1897.

cutting, and is bloodless; (2) parents and friends readily consent to it, when they would not to tracheotomy; (3) it gives a larger percentage of recoveries; (4) there is no perceptible shock after the operation; (5) There is no risk of systemic infection, because of an open wound; (6) it does not expose the lungs to inflammation by the air not being prepared for inhalation by passing through the upper-air passages; (7) it does not preclude a subsequent tracheotomy."

#### THE CENTENNIAL OF COLUMBIA COLLEGE.

THIS week Columbia College is celebrating, with appropriate ceremonies, the one hundredth anniversary of its revival after the Revolution. In 1787 it was reorganized by an act of the State Legislature which confirmed the royal charter granted in 1754 for the establishment of a college in New York and also changed the name of the institution from King's College to Columbia College. In 1749 a lottery was authorized by colonial law to raise money for the founding of a college, and by this means the sum of £3,443 18s. was raised, and in 1754, the same year the charter was granted, the Rev. Dr. Samuel Johnson, of Stratford, Conn., accepted the Presidency of the proposed seat of learning. The first college building was erected, on land presented by Trinity Church, in the year 1756.

The second President was the Rev. Dr. Myles Cooper, who succeeded Dr. Johnson in 1763. He was a strong Tory and excited so much indignation by his efforts in support of the King, that his lodgings were attacked one night in May, 1775, and he was obliged to take refuge on board the British man-of-war *Kingfisher*, on which he soon afterward sailed to England. It was during his Presidency, in 1765, that the Medical School was started; and the students in this department were the only ones who were not, at this time, required to lodge and take their meals in the college buildings. During the Revolution the students were dispersed, and the buildings were used as barracks and hospital by the American troops.

In 1787 Dr. William Samuel Johnson, son of the first President of King's College, was inaugurated the first President of Columbia College, and during his term of office the Medical School was more firmly established by the appointment of a Dean of the Faculty and several medical professors. In the beginning of the present century, Dr. David Hosack was professor of botany and materia medica. He collected an excellent library, and, having failed to secure land from the State for a botanical garden, he leased from the city corporation twenty acres of ground between what are now 47th and 50th Streets and Fifth and Sixth Avenues, a district then far out in the country. This property, which, with \$10,000, was afterwards given to the college by the State, now constitutes a considerable portion of its wealth. The Rev. Dr. Barnard, the present incumbent, was elected to the Presidency

in 1864, and has held the position longer than any of his predecessors.

The Medical School, established in 1767, existed until November, 1813, when it was consolidated with the College of Physicians, which remained entirely distinct from Columbia College until 1860, when it became formally recognized as the medical department of the college. The School of Mines, which was organized in 1864, has had a most successful career, and the associated departments of the college now have nearly 1,600 students in them, of whom 604 belong to the Medical School. The magnificent Vanderbilt benefactions will, of course, eventually, if not sunk in bricks and mortar, make the latter the most completely equipped and expensively appointed school of medicine in this country.

#### MEDICAL NOTES.

—The *Medical Record* gives the following as the composition of the patent asthma cure, which Dr. Holmes in his "One Hundred Days in Europe," says gave him more relief than any other of the many remedies that were showered upon him.

R. Pulv. lobellia,  
Pulv. stramoniac fol.,  
Pulv. potas nitrat.,  
Pulv. black tea . . . . . 33 3 ij.

M. and sift.

Some of this is burned and the smoke inhaled.

—Lord Lytton need not have restricted his celebrated aphorism regarding the comparative might of the pen and the sword as he did. Even outside "the rule of men entirely great," the sword has become, in these latter days, quite a feeble and useless thing. Colonel Paul Methuen stated recently, in the course of an address which he gave at Toynbe Hall, in London, that in the Franco-German war, only six Germans owed their death to the sword, and that the total number wounded with this weapon, with which the Romans conquered the world, was only two hundred and twelve. But all this is saying nothing about the rifle, the revolver, or even the toy-pistol. The average boy finds the latter weapon more effective, and infinitely easier to wield, than the pen; while the daily records of the press show that a considerable portion of the community put their trust, in times of storm and stress, upon the seven-shooter, rather than upon the stylographic pen.

—A meeting of anti-vivisectionists recently held at Edinburgh, recorded a protest against the "memorial recently presented to the Royal College of Surgeons praying that the bequest by Sir Erasmus Wilson should be devoted to the foundation of an institution for physiological and pathological research."

—A correspondent of the *Chicago Medical Journal and Examiner*, writing from the La Pitie Hospital, in Paris, gives the following caustic description and comments regarding the conduct of a laparotomy which he there witnessed: "At this hospital, I saw

the most bungling laparotomy I have ever seen performed, excepting, perhaps, one ten years ago, performed by a gynecologist, who was at that time, and is even to-day, recognized as one of the first authorities in England. To see what a perfect failure two such great authors on the subject of diseases of women are, when they attempt to do an ovariectomy, has led me to the conclusion that there is an especial skill required for the performance of this operation, which a few men possess, and many cannot acquire. This man's idea of antiseptics was evidently the use of the spray; for while the room was so full of the vapor of carbolic acid that one could hardly breathe, one of his assistants had just finished dressing a woman's leg affected with acute phlegmasia dolens, and went directly from the case to the operating room without changing his clothing. The man who handed the instruments had dirt under the finger-nails, and the numerous assistants who attended to the sponges did not wash their hands after coming into the operating room. The cyst was one of the broad ligament; it had a great many attachments, and the operation was a difficult one. The patient died twenty-four hours after the operation, but whether from carbolic-acid poisoning, or from the operation itself, I was unable to settle in my own mind."

## BOSTON AND NEW ENGLAND.

Two cases of small-pox were lately reported from Huntington, among employes of the Chester paper company. An investigation of the circumstances by the Secretary of the State Board of Health, showed that rags were the probable medium of contagion, but whether domestic or foreign rags, it was impossible to determine definitely. A portion of the domestic rags were from New York where small-pox has been prevalent of late, and the probability seemed to Dr. Abbott to be in favor of these rags as being the medium of contagion.

The medical profession in Maine seems to be still in doubt as to the actual facts regarding the passage of the Medical Bill, which was at first said to have received the governor's approval, and was later said to have been vetoed. There are now rumors that the page of the record containing a signed bill has been cut out and is not to be found. An investigation is expected, pending which some of the incorporated bodies within the State maintain that the act is law.

A fire last week in the building occupied by Messrs. Wright & Potter, State printers, destroyed a large quantity of printed reports and other public documents, among them the entire edition of the forthcoming Report of the Massachusetts Board of Health, which will consequently have to be set up and printed anew, thus causing a considerable delay. This is, we believe, the third or fourth, more or less serious fire which has taken place in the premises of this firm, and this recurring misfortune has a peculiarly disastrous effect upon those departments whose work is so closely dependent on the prompt transaction of the public printing.

The Judiciary Committee gave a hearing at the State House, April 6th, on the expediency of legislation to improve the methods of using expert testimony in court. The presence of a large number of prominent physicians attested the interest of the medical profession in the subject. The draft of a bill was submitted by T. W. Tyndale, Esq., who appeared as counsel for the Massachusetts Medico-Legal Society. The provisions of the bill were similar to those of a proposed bill, printed upon page 120 of this volume of the JOURNAL. Drs. Francis Minot, H. I. Bowditch, B. E. Cotting, Theodore Fisher, E. S. Wood, and others addressed the Committee in behalf of improved methods of using expert testimony in court.

The disappearance and probable death of an insane pauper who escaped from the almshouse at Prescott, Mass., led to an investigation of the place by the State Board of Lunacy and Charity. The investigation resulted in a report that the building was unfit for its purpose; that a ball and chain had been used on the legs of inmates; that they were confined in small, loathsome rooms; that the patient who disappeared, and whose remains were subsequently found about a mile from the almshouse, had jumped from a window and tried to get away in the midst of a snow-storm, having been previously maltreated.

We referred to the condition of the pauper insane in some of the almshouses in this State in an editorial, March 17th last.

## NEW YORK.

The fifty-seventh annual commencement of the New York College of Pharmacy was held at Steinway Hall, March 29th, when the Rev. Dr. Robert Collyer delivered the address to the graduating class, which numbered eighty-three.

The New Jersey State Board of Health met on April 8th, and discussed the legislation enacted in the interest of the public health during the session of the Legislature just ended. Included in this are new laws, securing the enforcement of the act in reference to the adulteration of foods and drugs by the Dairy Commissioners and the Milk Inspector. The State was reported to be in an unusually healthy condition, except as regards measles, which is epidemic in several cities. There is a slight outbreak of small-pox at Plainfield, but the small-pox in Atlantic County is well under control. There is said to be an increase of pleuro-pneumonia in Hudson County.

It has been decided by the Committee in charge of the Marion Sims monument fund, of which Dr. George R. Shrady, editor of the *Medical Record*, is Chairman, that no award of a design will be made until the autumn. The other members of the Committee are Drs. William T. Lusk, Fordyce Barker, Thomas Addis Emmet, and William M. Polk; and, largely through the efforts of the *Record*, about \$7,500 have been subscribed. For some time past, ten designs for the proposed monument, selected from a considerable number offered in competition, have been on exhibition at the hall of the Academy of Medicine,

and these are by the sculptors, Wilson MacDonald, Alexander Doyle, Giovanni Turini, and Carl Schmidt. The monument is to be a standing figure in bronze, and it will probably be placed in Central Park.

## Correspondence.

### AXILLARY LUMPS.

6 NOTTINGHAM TERRACE,  
YORK GATE, N. W. LONDON,  
March 29, 1887.

MR. EDITOR.—Those of your readers who have cared to follow the correspondence on the above subject will not fail to observe that Dr. E. T. Williams has dropped the statement that the cases by Scarpa, Siebold, Moore, Lee, and Stanley were "quite similar to those described by Champncy" (whose name, by the way, is misspelt). He now drops all these but the case of Siebold, whose case he still thinks is of the same kind as those described by Dr. Champneys (not "Champncy.") It may be so; I say it cannot be proved from Siebold's description, and I have already referred to the differences.

Dr. E. T. Williams talks about the advisability of treating "the uncleanliness and uncleanness of a constantly oozing tumor of the armpit," by a surgical operation. From this I gather that he cannot have read the course of these lumps in the original. Several inaccuracies occur in the annotations, from which alone Dr. E. T. Williams appears to have drawn his information. It is no business of mine to save him the trouble of referring to the author's original description for more precise information, and I shall write no further letters with this object.

Had he been accurately informed he would scarcely have considered operative procedure "fair practice," even though a specimen might be thereby procured for microscopic examination.

These "lumps" have doubtless existed for centuries, but that much concerning them remains to be learnt no one will deny; certainly their describer says no word in any other sense. Now that Dr. Champncy's description has at one and the same time afforded a means of recognizing their character and drawn special attention to their prevalence, accident may be trusted to provide a pathological specimen in the near future. For this we must be content to wait patiently.

Yours truly,

ROBERT BOXALL, M.D.

## THE DISCUSSION OF THOUGHT-TRANSFER- RENCE AT THE SUFFOLK DISTRICT MEDICAL SOCIETY.

14 DEAN'S YARD, WESTMINSTER, LONDON,  
February 23, 1887.

MR. EDITOR.—Will you allow me space for a few comments on the interesting discussion respecting thought-transference, which I find reported in your issue of February 3d. Dr. Morton Prince's presentation of the case struck me as extremely able and fair; and both he and Professor Royce expressed with regard to it just that scepticism (in the proper sense of the term) with which it ought undoubtedly to be approached. But some of the subsequent speakers seemed (partly, perhaps, owing to the necessary condensation of their remarks in your columns) to do our English work somewhat less than justice.

Mr. T. W. Higginson's attitude is a little puzzling; for though he is so circumstanced that he might fairly have blessed us, his utterances have much more the sound of curses. He accepts the reality of thought-transference, and of thought-transference of an extreme form, on the strength of certain experiences of his own; yet his whole interest seems to be in discountenancing inquiry into the

subject (except, perhaps, as a branch of disease) on the ground of the lax moral character of the persons through whom these results were obtained. If his mind was really "read," as he describes, then his results confirm ours; and surely that is the important point—for him, and for us, and for science. That his "subjects" may have been capable of fraud is nothing to the purpose, unless the conditions were such that fraud on their part would account for the results, which, from his account, it certainly would not do.<sup>1</sup> And, at any rate, one who has witnessed phenomena which he can describe as going far beyond ours, even if ours were genuine, might avoid "poisoning the wells" of the inquiry by mixing up thought-transference with trick-performances in dark cabinets, and attempting (by implication at any rate) to fix on persons of perfectly good repute, who voluntarily assisted us, the odium and suspicion attaching to professional "mediums," in whom "a slipperiness of moral principle" had been detected. In this connection I must also refer to a remark of Dr. Knapp's, who says: "In England, only a few people are capable of thought-transference, and are often the subject of morbid mental or moral conditions." I do not know on what evidence the latter assertion rests; there is at any rate no ground for it, in respect of any one of the "subjects" with whom we have come in contact.

Passing to Dr. Minot's remarks, I must first resist the inference which he appears to draw from the fact that in America 30,000 experiments have been made, with negative results. A large number of these trials were of a type (guessing the color of playing-cards) which there is reason to think a specially unfavorable one for the purpose, since so narrow a field of choice makes it exceptionally hard for the would-be percipient to avoid mere guessing;<sup>2</sup> while in the remaining experiments with numbers, the digits, instead of being taken in a chance order (as, for example, by drawing them from a bag), were arranged on a system—which again would be likely to have a disturbing effect on the "subject's" mind. But whether or not these conditions were answerable for the failure, no amount of mere failure elsewhere can invalidate the successes here, in experiments of very various types, involving—if the results were obtained by fraud—our own fraud, and that of other persons of otherwise unblemished character. But this point was so forcibly brought out by Dr. Prince that I need not dwell on it.

Dr. Minot is further reported to have said that "the English Society is in the condition of investigators whose tests have been rendered quite unreliable by the fact that they were themselves the dupes of their own ideas." They ask of us a tremendous act of faith, as the foundation of all further action. Now, as any stick is good enough to beat a dog, so any statement, however rash, may serve to disparage a psychological researcher. But it surely is rash to assume that we believed in thought-transference before we (as we think) found it, or that we were insensible of what we have constantly admitted and proclaimed—the strength of the *a priori* presumption against it. And if, having (as we think) found it, we are "the dupes of our own ideas" in believing in it, the function of experimentation seems rather abrogated. It is surely not a necessary condition of reliability in a novel experiment that its results shall conform to previous anticipations. As for our alleged demand for "a tremendous act of faith," I cannot conceive where Dr. Minot thinks that he has come across it. We have urged again and again that in such matters no line can be drawn at which it can be said that a scientific mind ought to be convinced; that till every scientific mind is convinced, the proof is incomplete; and that, inasmuch as it is unlikely that all the world will have the opportunity of themselves taking part in conclusive exper-

<sup>1</sup> If Mr. Higginson would be so kind as to send me the details of the experiences to which he refers, he would earn my very warm gratitude.

<sup>2</sup> It should be noted that in England 17,000 experiments where the idea to be transferred was of the suit (not the color) of the cards, gave a cumulative result which was practically conclusive as to the operation of something beyond chance. See "Phantasies of the Living," Vol. I, p. 33.

iments, and most people will have to accept the results, if at all, on the responsibility of others, it is of prime importance to spread this responsibility as widely as possible. I endorse every word of Dr. Prince's remarks as to the need of more observers; and though the number of observers are necessarily to some extent limited by the rarity of hopeful material for observation, the fact of their fewness for which they are not to blame, must none the less be recognized as a real obstacle to the speedy acceptance of their conclusions. And so long as they themselves admit this, and go on trying to remove the obstacle by urging wider and ever wider experiments, their demand is surely not so much for faith as for works.

There is one special criticism of Dr. Minot's to which I must advert, as it again exemplifies the "any stick" style of argument. He mentions the recent case of a hypnotised boy who could discern the matter of a printed page from the extremely minute reflexion of it in another person's cornea; and he adds, "such experiments were unknown to the English investigators, and their results must not be looked upon as conclusive." This remark could have no point unless it were implied that in the results attributed by us to thought-transference the mode of perception may have been the same as the hypnotised boy's. Yet a very little study of our reports would have shown (1) that in not one per cent. of our experimental cases, and, as far as I remember, not in a single case where the idea to be transferred was that of a visible object was the "subject" hypnotised; and (2) that in cases where an object was visibly presented to the agent while the attempt to transfer the idea of it was in progress (as in some of the

experiments in the reproduction of diagrams), either the percipient was blindfolded or the agent was placed behind him.

Coming to our cases of spontaneous telepathy, Dr. Minot objects to them that "the phantasms possess little in the way of diversity or novelty." The subjects all tell the same story, subject only to variations of time, place and persons. The facts are always the same. "This is to a great extent true; and the point is one which, in 'Phantasms of the Living,' I have ventured to emphasize as an argument for the substantial correctness of the majority of our first-hand records. Fictitious and anonymous tales of the 'supernatural,' and even second and third-hand narratives of the telepathic type, abound in novel and sensational details which are conspicuous by their absence from our first-hand testimony. The monotonous uniformity of this testimony—coming as it does from hundreds of independent sources, and from persons who knew nothing of the telepathic theory—though it may make the accounts dull reading, is surely not otherwise to their disadvantage.

Dr. Minot further compares our records to those relating to witchcraft, which he says were of a similar monotonous type. On this subject, I may perhaps be allowed to refer your readers to "Phantasms of the Living," (Chap. iv, where I have tried to show the need of very carefully discriminating various classes of witch-cases, and have worked out in some detail the contrast between the evidence for telepathy and that which has been adduced for various species of popular superstition.

I am, sir, yours obediently,

EDMUND GURNEY,

Hon. Sec'y of the English Society for Psychical Research.

\* A fuller discussion of this part of the subject may be found in "Phantasms of the Living," Chap. II.

#### REPORTED MORTALITY FOR THE WEEK ENDING APRIL 2, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Measles.	Diph. & Croup.	Scarlet Fever.
New York . . . . .	1,481,920	762	287	16.58	19.76	1.95	8.58	1.43
Philadelphia . . . . .	933,801	411	165	11.73	10.12	2.59	3.45	.92
Brooklyn . . . . .	745,108	300	47	10.56	—	1.15	5.61	1.05
Chicago . . . . .	725,000	—	—	—	—	—	—	—
St. Louis . . . . .	420,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	—	—	—	—	—	—	—
Boston . . . . .	400,000	193	64	5.94	21.84	—	2.16	.54
New Orleans . . . . .	242,750	—	—	—	—	—	—	—
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
District of Columbia . . . . .	210,000	82	35	2.44	1.72	—	—	—
Pittsburgh . . . . .	210,000	96	43	16.64	24.96	7.14	5.50	2.08
Montreal . . . . .	180,557	—	—	—	—	—	—	—
Milwaukee . . . . .	170,000	—	—	—	—	—	—	—
Providence . . . . .	121,000	50	14	22.00	12.00	10.00	2.00	4.00
Richmond . . . . .	109,000	—	—	—	—	—	—	—
New Haven . . . . .	80,000	24	6	4.16	8.32	—	4.16	—
Nashville . . . . .	65,000	—	—	—	—	—	—	—
Charleston . . . . .	60,145	—	—	—	—	—	—	—
Portland . . . . .	40,000	—	—	—	—	—	—	—
Worcester . . . . .	68,363	14	10	21.42	14.28	—	—	—
Lowell . . . . .	64,051	35	11	25.74	17.66	11.44	5.72	—
Cambridge . . . . .	59,940	25	6	4.00	4.00	—	—	—
Fall River . . . . .	56,863	23	11	13.05	—	—	—	4.35
Lynn . . . . .	45,861	13	2	—	23.07	—	—	—
Lawrence . . . . .	38,825	16	6	6.25	6.25	—	—	—
Springfield . . . . .	37,577	16	3	—	12.50	—	—	—
New Bedford . . . . .	34,283	15	4	6.73	—	—	—	—
Somerville . . . . .	29,522	13	6	7.69	15.38	—	—	—
Salem . . . . .	28,064	12	3	8.33	—	—	—	—
Holyoke . . . . .	27,894	10	4	20.00	10.00	40.00	10.00	—
Chelsea . . . . .	25,709	12	2	16.06	—	—	8.33	—
Taunton . . . . .	23,674	7	3	—	—	—	—	—
Haverhill . . . . .	21,745	11	1	—	27.27	—	—	—
Gloicester . . . . .	21,713	7	2	28.42	—	—	28.42	—
Brockton . . . . .	20,783	7	2	—	28.42	—	—	—
Newton . . . . .	19,759	3	2	—	—	—	—	—
Malden . . . . .	16,407	2	0	—	—	—	—	—
Fitchburg . . . . .	15,375	6	3	—	—	—	—	—
Waltham . . . . .	14,620	19	2	—	33.33	—	—	—
Newburyport . . . . .	13,716	10	2	—	20.00	—	—	—
Norhampton . . . . .	12,896	6	2	16.66	16.66	—	15.00	—

Deaths reported 2,277: under five years of age 772; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 289, acute lung diseases 309, consumption 286, diphtheria and croup 118, measles 36, scarlet fever 26, diarrheal diseases 23, typhoid fever 21, whooping-cough 17, cerebro-spinal meningitis 11, erysipelas seven, malarial fever four, purpural fever three, small-pox (New York) two. From diarrheal diseases, New York eight, Boston four, Philadelphia and Lowell two each, Brooklyn, District of Columbia, Pittsburgh, Providence, Cambridge, Fall River and Chelsea one each. From typhoid fever, Philadelphia nine, New York five, Providence two, Brooklyn, Boston, District of Columbia, Lowell and Lawrence, one each. From whooping-cough, New York seven, Philadelphia four, Brooklyn three, Richmond two, Salem one. From cerebro-spinal meningitis, Worcester three, New York two, Philadelphia, Boston, Newport, Pittsburgh, Fall River and Somerville, one each. From erysipelas, New York six, Brooklyn three.

From malarial fevers, New York and Philadelphia two each. From purpural fever, New York two, Philadelphia one.

One case of small-pox reported in Pittsburgh. In the 28 greater towns of England and Wales, with an estimated population of 9,245,000, for the week ending March 19th, the death-rate was 22.4. Deaths reported 3,977: infants under one year of age 919; measles 213, whooping-cough 112, scarlet fever 45, diarrheal diseases 35, fever 32, diphtheria 24, small-pox (Sunderland) one.

The death-rates ranged from 13.9 in Birkenhead to 33.2 in Manchester; Birmingham 22.0; Bradford 20.7; Halifax 16.5; Hull 20.1; Leeds 25.1; Leicester 20.4; Liverpool 20.6; London 20.4; Newcastle-on-Tyne 28.6; Nottingham 18.4; Sheffield 23.1. In Edinburgh 19.6; Glasgow 30.3; Dublin 29.3.

The meteorological record for the week ending April 2, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.
Saturday,	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.		7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Direction, Duration, & Intensity.
Apr. 2, 1887.																			
Sunday, ... 27	29.362	29.0	31.0	19.0	46.0	27.0	54.0	42.0	N.W.	N.W.	E.	16	5	12	F.	O.	O.	—	—
Monday, ... 28	29.3	40.0	44.0	20.0	100.0	85.0	83.0	85.0	E.	N.W.	W.	6	5	8	R.	O.	R.	—	—
Tuesday, ... 29	29.461	28.0	30.0	21.0	77.0	61.0	58.0	65.0	N.W.	N.W.	N.W.	23	24	29	O.	O.	O.	—	—
Wednesday, ... 30	29.354	23.0	29.0	11.0	52.0	47.0	50.0	50.0	W.	W.	W.	31	28	19	C.	C.	C.	—	—
Thursday, ... 31	29.287	34.0	41.0	21.0	56.0	55.0	43.0	41.0	W.	W.	S.W.	12	6	4	C.	C.	C.	—	—
Friday, ... 1	30.190	35.0	39.0	20.0	76.0	65.0	77.0	73.0	E.	N.E.	N.E.	12	20	21	O.	O.	O.	—	—
Saturday, ... 2	29.602	31.0	35.0	27.0	100.0	100.0	100.0	100.0	N.E.	N.	N.W.	24	30	32	N.	N.	N.	11	1.50
Mean, the Week.	29.920	31.1	33.0	23.0				66.0											

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 2, 1887, TO APRIL 8, 1887.

HOFF, JNO. VAN R., captain and assistant surgeon. Ordered for duty at Fort Reno, I. T. S. O. 43, Department of Missouri, April 4, 1887.

CORBUSETT, W. H., captain and assistant surgeon. Granted leave of absence for one month. S. O. 35, Department of Arizona, March 29, 1887.

BURTON, H. G., captain and assistant surgeon. Ordered to Plattsburg Barracks, N. Y., for temporary duty. S. O. 78, A. G. O., April 5, 1887.

LA GARDE, L. A., captain and assistant surgeon. Ordered for duty at Fort Assiniboine, M. T. S. O. 78, A. G. O., April 5, 1887.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING APRIL 9, 1887.

URQUHART, F. M., passed assistant surgeon. To assume charge of Cape Charles Quarantine, March 29, 1887.

NORMAN, SKATON, assistant surgeon. To report for duty at Cape Charles Quarantine, April 2, 1887.

BAILLACHE, P. H., surgeon. Detailed as chairman, Board of Examiners, to meet in Washington, April 25, 1887. April 4, 1887.

PURVIANCE, GEORGE, surgeon. Detailed as member, Board of Examiners, to meet in Washington, April 25, 1887. April 4, 1887.

GODFREY, JOHN, surgeon. Detailed as recorder, Board of Examiners, to meet in Washington, April 25, 1887. April 4, 1887.

IRWIN, FAIRFAX, passed assistant surgeon. To proceed to Baltimore, Md., on special duty, April 8, 1887.

BETTS, W. J., assistant surgeon. To proceed to Norfolk, Va., for temporary duty, April 4, 1887.

#### BOSTON DISPENSARY APPOINTMENTS.

At the April meeting of the Managers of the Boston Dispensary, Dr. Henry L. Morse was appointed Physician to the Department for Diseases of the Ear; and Drs. Henry Jackson, John A. Jeffries and Robert W. Lovett, District Physicians.

#### SOCIETY NOTICE.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY. — The annual meeting will be held at Porter's Hotel, North Cambridge, on Wednesday, April 20, 1887, at 12 o'clock. The annual address will be delivered at 1 o'clock, P. M., by Dr. H. E. Marion, of Brighton. The Censors will meet at the same place at 11.30 A. M., of the same day, to consider applications for admission to the Massachusetts Medical Society. The general assessment should be paid to Dr. J. W. Willis, Treasurer, before the annual meeting of the State Society. Telephone number of hotel 7294. WALTER ELA, Secretary.

#### BOOKS AND PAMPHLETS RECEIVED.

The Forty-Eighth Annual Report of the Superintendent of the Boston Lunatic Hospital, to the Board of Directors for Public Institutions. For the Year ending December 31, 1886. Boston, 1887.

Sphygmography and Cardiography, Physiological and Clinical. By Alonzo T. Keyt, M.D. Edited by Asa B. Feham, M.D. and M. H. Keyt, M.D. New York and London: G. P. Putnam's Sons. 1887.

The Nursing and Care of the Nervous and Insane. By Charles K. Mills, M.D., Professor of Diseases of the Mind and Nervous System in the Philadelphia Polyclinic, etc. Philadelphia: J. E. Lippincott Company. 1887.

The Presbyterian Eye, Ear and Throat Charity Hospital of Baltimore City, Monthly Report. The New Treatment of Cataract Patients. By Julian J. Chisolm, M.D., Surgeon in Charge of the Hospital. 1887. (Reprint.)

Fourth Biennial Report of the Board of Trustees and Officers of the Minnesota Hospital for Insane (organized 1886). Located at St. Peter, and Second Minnesota Hospital for Insane (organized 1877). Located at Rochester, to the Governor of Minnesota for the Biennial Period ending July 31, 1886. St. Paul, 1886.

A Descriptive List of Anthropometric Apparatus, consisting of Instruments for Measuring and Testing the Chief Physiological Characteristics of the Human Body. Designed under the Direction of Mr. Francis Galton, and Manufactured and Sold by The Cambridge Scientific Instrument Company, Cambridge, England. 1887.

Cyclopedia of Obstetrics and Gynecology. The Pathology of Pregnancy, being Volume II. of a Practical Treatise on Obstetrics. By Dr. A. Charpentier. Translated under the supervision of, and with notes and additions by Egbert H. Grunlin, M.D. In Four Volumes. Forty-five fine wood engravings and two colored plates. New York: Wm. Wood & Co. 1887.

## Original Articles.

## THE CIRCULATION OF THE BLOOD IN THE ORBIT STUDIED BY MEANS OF THE PLETHYSMOGRAPH.

BY W. F. ELLIS, M.D., SPRINGFIELD, MASS.

THE vascular system of the orbit may be considered as an appendage of that of the cranial cavity. The ophthalmic artery is given off at the base of the brain, and the ophthalmic vein may be regarded as the commencement of the cavernous sinus. The circulation in the orbit is, therefore, intimately connected with that of the brain.

The circulation of the blood in the brain is subjected to peculiar conditions. The cranial cavity of the adult is inextensible, and practically filled with fluid. A certain amount of this fluid must be expressed from the cavity at the time when a new supply of blood enters it. The blood finds a sudden obstacle to its free propulsion when it passes into the cranium. This increased resistance that the blood encounters expresses itself in a very marked manner in the pulse-tracing of the brain.

Mosso<sup>1</sup> made an elaborate series of experiments with individuals who had lost portions of the skull either from accident or disease. He employed the graphic method in these investigations, and was thereby enabled to obtain permanent records of the circulation of the brain. Upon inspecting the numerous tracings published by him one is forcibly struck by the peculiar form of the pulse-curve, which is very dissimilar to that of ordinary sphygmograms obtained from peripheral arteries. In many of Mosso's experiments, the circulation of the arm was recorded at the same time as that of the brain. The arm was enclosed in a plethysmographic apparatus, which Mosso calls a hydrosphygmograph, and has been extensively employed by him in studying the local variations of the pulse.<sup>2</sup>



FIG. 1.

Figure 1, is a reproduction of a portion of one of the illustrations in Mosso's work, "The Circulation of the Blood in the Brain." The upper tracing is that of the arm obtained with the hydrosphygmograph, the lower that of the brain. The striking differences in the characters of the two tracings are very apparent. In the plethysmogram of the arm, the secondary undulations all occur in the descending portion of the pulse-curve, and the pulse is, according to Landois, anacrotic. In the brain-tracing, however, the secondary undulations, all occur in the ascending portion of the pulse-curve;

the pulse is, therefore, anacrotic. In many of Mosso's illustrations, the projecting point between the two notches in the pulse-curve of the brain occupies a higher level than the remaining portions of the curve. Mosso calls this the tricuspid form.

The apparatus employed by Mosso to record the circulatory changes within the skull was a simple one. A piece of gutta-percha was made to cover the part of the skull where there was a loss of substance. The centre of the piece was perforated with a glass-tube connected by means of rubber-tubing with a Marey's drum. The lever of the drum recorded the circulatory changes upon smoked paper covering a revolving cylinder. By means of this simple apparatus used in conjunction with the arm plethysmograph, a series of very interesting experiments were made upon the effects of different psychical conditions upon the circulation of the brain.

Several investigators have endeavored to record the intracranial circulation in animals, removing a portion of the skull of the animal experimented upon by means of the trephine. The experiments of Frédéricq<sup>3</sup> are among the latest and most successful in this direction. He obtained pulse-curves, in experimenting with dogs, quite comparable to those recorded in Mosso's experiments with the human subject.

It occurred to the writer that it would be of considerable interest to record the circulation of the orbit. The physiological importance of the subject is apparent. The circulation of the orbit is so intimately connected with that of the brain that there would seem to be great liability of circulatory changes in the larger cavity affecting the blood-supply of the smaller. If it could be proven that psychical changes affect the circulation of the orbit in the same way as they have been shown by Mosso to express themselves in the records of the circulation in the cranial cavity, then a very important advance in the means of investigating the physiology of the cranial circulation in the human subject would be made. Direct investigation of the cranial circulation can only be made in the adult upon persons who have lost portions of the skull. Such subjects are rare, and opportunities to utilize them for experimental purposes rarer. The orbit, however, is always accessible.

For the purposes of this investigation, it was necessary to have apparatus much more delicate than that employed by Mosso. The blood-supply of the orbit is brought through an artery only a millimetre in diameter. I therefore employed some forms of apparatus that I had devised for very delicate physiological work.<sup>4</sup> This apparatus is the piston-recorder for air connections, and the other piston-recorder. For the purposes of this article it is not necessary to give a minute description of this exquisitely delicate apparatus. I hope to do this in a future article, treating of the finger plethysmograph and its applicability to clinical research.

The experiments were performed as follows: A piece of gutta-percha, five millimetres in thickness, was accurately moulded to the portion of face surrounding the orbit, after previous softening in warm water. A hole was made in this in a part corresponding to the centre of the orbit. A short glass-tube was fixed hermetically to this aperture. The gutta-percha shield was securely banded over the orbit, and the glass-

<sup>1</sup> Sulla Circolazione del Sangue nel Cervello dell'Uomo.<sup>2</sup> Die Diagnostik des Pulses, Leipzig, 1879.<sup>3</sup> La Courbe plethysmographique du Cerveau du Chien, Travaux du Laboratoire, Univ. de Liège, Tome I, 1885 and 1886.<sup>4</sup> Journal of Physiology, Vol. VII, p. 309.

tube in its centre was put in communication with the piston-recorder by means of a rubber-tube. If there is no leakage of air beneath the shield, which, with proper care, may be obviated, it is easy to obtain a record upon smoked paper of the circulatory changes in the orbit. The most striking feature of these records is the peculiar shape of the pulse-curve. The curve is anacrotic, the secondary undulations appearing in the ascending portion and vertex. In order to greatly magnify these curves, I employed the ether piston instead of the ordinary form, and recorded its excursions by photography according to the method

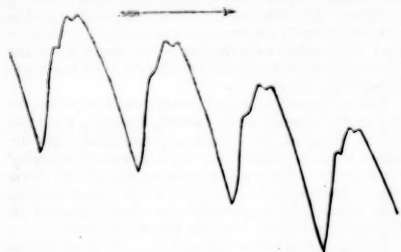


FIG. 2.

described by me in the *Journal of Physiology*.<sup>5</sup> Figure 2 is a somewhat reduced reproduction of the outline of one of the records obtained. The very marked similarity of the form of the pulse-curves in this record to that of the brain-tracing in Figure 1, is very apparent. This tracing is entirely different from one taken from the carotid in the neck or from any peripheral bloodvessel. It shows very clearly how intimately the circulation of the orbit is related to that of the cranial cavity. The peculiar form of the pulse-curve may also contribute in a measure toward the advancement of our knowledge of vascular physiology in general. The purpose of this preliminary account of these researches is to call attention to the exceeding delicacy of the methods employed, and to record the interesting fact that the pulse-curve of the orbit is very similar to that of the brain. The subject should be of interest to ophthalmologists as well as physiologists. The researches to be made with the apparatus and methods employed in these experiments will naturally tend in two directions: first, to gain, so far as possible, information of the cerebral circulation; secondly, to ascertain to what extent the condition of the circulation of the eye is indicated in the general record of the orbital tracing.

—A correspondent of the *Lancet* (March 5th) describes a case of fracture of the thigh occurring during parturition. The patient was a quintipara; the labor natural, vertex presentation, O. L. A. The birth of the head was followed very quickly by that of shoulders and body; and, as the latter came through the vulva, the attendant heard a snap, which proved to have been caused by a fracture of the patient's left thigh. The only thing noted as unusual about the case was the marked and quick rotation of the face to the right thigh after the birth of the head.

<sup>5</sup> Vol. VII, p. 314.

# ON A NEW METHOD OF TREATMENT OF CHRONIC-METRITIS, AND ESPECIALLY ENDO-METRITIS, BY THE INTRA-UTERINE CHEMICAL GALVANO-CAUSTIC.<sup>1</sup>

BY DR. APOSTOLI, OF PARIS, FRANCE.

INTRA-UTERINE therapeutics is asserting its claims more and more, and is justly supplanting the old exterior treatment of the cervix. The new process, which I have followed for the past four years, in the electrical treatment of fibroids, I have pursued for the same length of time, and with equal success, in curing chronic-metritis; and this same process is even better adapted to the treatment of the form generally called endo-metritis. For a lesion which, before invading the uterine parenchyma attacks first the mucous membrane, fixes itself there more or less to seize afterwards the surrounding parts, I apply a treatment wholly intra-uterine, and which will cauterize all the membrane affected. For the modern process of scraping, of liquid injections, or purely chemical intra-uterine cautery, I substitute a galvano-chemical treatment, less harsh, more concentrated, which can be localized, and which every woman can bear, if properly applied.

The immediate chemical action which consists in a progressional destruction of the mucous membrane is soon followed by a process of shrinking and disintegration which promotes the absorption of the exudation and of the hyperplasia of new formations. To be successful in this operation it is necessary to have the following electrical instruments, the function and necessary qualities of which, ought to be well understood.

*First.* A medical galvanometer divided, for intensity into milliamperes which I was the first to have graded to 200. It gives the only exact measurement of the electric force used, which before was known only in a vague and empirical way, by the enumeration of the number of cells (a cell once used never affording the same strength as a new one).

*Second.* A permanent battery of sufficient size to last for some time, and to preserve practically the same strength, after several successive operations, which will furnish with a small number of cells, thirty on an average, a high intensity of 100 to 200 milliamperes; the best battery is that of Leclanché; a good portable battery of small volume is yet to be invented, but for the present, that with bi-sulphate of mercury with facultative immersion will suffice for the requirements of the operator.

*Third.* An intra-uterine electrode of sufficient length to extend to all parts of the uterine cavity and which is not affected by acids, as platinum. It must also be provided with an isolating muff to protect the vagina, the best being a celluloid tube.

*Fourth.* A neutral or insensible electrode, which applied on the abdomen, allows a very intense current to pass without pain, without heat, and without fear of burns; the best is the one of clay, which I introduced in 1882.

*Fifth.* Cords supple enough not to obstruct, and resisting enough not to be easily broken and cause interruptions painfully felt by the patient. The physician possessing a good instrument must conform strictly to the details of the operation hereafter described.

*First.* Make a tepid and antiseptic vaginal injection.

<sup>1</sup> Translated and read before the Gynecological Society of Boston, February 10, 1887, by L. S. Fox, M.D., of Lowell, Mass.

tion, placing the patient as if for an examination by the speculum.

*Second.* Charge the battery, arrange the galvanometer and put in proper position the abdominal clay muff, and arrange the current wires.

*Third.* Introduce into the uterine cavity slowly and progressively the electrode previously singed and disinfected. Isolate entirely the vagina and vulva.

*Fourth.* Cauterize the uterine cavity thoroughly and positively in all hæmorrhagic cases, and less thoroughly in other cases.

The predominating principle in all movements is never to surprise the uterus or to make a too painful application, for it is well understood that there are irritable uteri, though of a very limited number (say from three to five per cent.) as for instance in hysterical persons, who can scarcely bear any current, however weak it may be. Such patients can receive treatment only in a very mild form. Use the current at first very slowly. Pause before extreme sensibility has been reached, in order to accustom the patient to it, and to overcome all physical and moral resistance.

After two or three applications the intensity must be increased, in most cases reaching from 100 to 150, and, if required, even 200 milliamperes. The intensity must at first be proportioned and regulated according to the patient's power of endurance; afterwards by the extent and gravity of the lesion and the time it has existed. The duration of the application, which varies from five to ten minutes must, like the intensity, be graduated according to what is expected to be accomplished. Applications should be made every week, and every second day if required; and the physician should regulate their number and frequency by the urgency of the case. A rest of at least several hours should be required of all patients who have been operated upon. This rest is necessary for the safety as well as the efficacy of the method.

Vaginal antiseptic injections of carbolic acid should be prescribed which the patient should use morning and evening. This simple and harmless treatment, truly hysterometric, is only a galvano-chemical scraping, acid or basic, according to cases; it induces a formation of new mucous membrane, and forms a kind of intra-uterine exudation, the action of which can be prolonged and varied at will. Its beneficial effect, which I have verified in a great number of instances, does not fail to make itself felt from the first, increasing rapidly and soon restoring the patient to health. It does not condemn the woman to a forced repose, and calls for no additional treatment.

#### LAPAROTOMY FOR HYDROSALPINX.<sup>1</sup>

BY F. B. HARRINGTON, M.D.

Mrs. A. B., thirty-six years of age. Married about one year, had never been pregnant. She had always been well except for slight dysmenorrhœa until she was thirty years old, when she first noticed a watery discharge coming from the vagina. This discharge, the patient thought, was connected with the menstrual flow, either immediately preceding, following or accompanying it. The amount of watery discharge was at first small, but gradually increased until on one

occasion during a period of three weeks she was obliged to use one hundred and sixty-five napkins. These napkins were used until the water began to drip from them. The amount discharged was large, although it was impossible to measure it. The amount of blood lost during menstruation, was usually small, the period not lasting more than three or four days. The watery discharges never disappeared for a longer interval than five weeks. The discharges had no odor and did not stain nor stiffen the clothing on drying. It frequently came unexpectedly, with a rush, drenching the patient. Toward the close of the discharge, it sometimes became slightly urinous in odor.

The patient was nervous, worn-out and anæmic; with a systolic hæmic murmur at the base of the heart. The urine was normal. She had, of late, severe pelvic pains on the left side, which were augmented during the discharge.

The uterus showed left lateral displacement with slight anteversion. The cervix was soft, short and thick. The body of the uterus was slightly enlarged and the cavity measured three and one-quarter inches. At the right of the uterus could be felt a fluctuating tumor, somewhat movable, filling the right side of the pelvis and pushing the uterus into the left side. Between the tumor and the abdominal wall could be felt an elongated tumor, irregular in outline, extending transversely across the pelvis toward the body of the uterus. On the left side a somewhat similar mass could be felt. The diagnosis was hydrosalpinx with a cyst probably connecting with the right tube and discharging into the uterus.

The prognosis was not favorable to recovery from the disease unless the tumors were removed. The patient gladly took the risk of an operation, for she preferred to die to the misery of her condition. On opening the abdominal cavity the right Fallopian tube was found distended to a circumference of two and three-fourths inches, connecting the uterus with an ovoid cyst three and one-half inches in the longest diameter. At the side of the cyst was another somewhat larger. Both of these cysts were covered by peritoneum. No ovary could be seen on this side.

The Fallopian tube on the left side was also dilated and at its outer extremity was the left ovary, so closely attached that they could not be separated. On this side were adhesions, old and new, to the sigmoid flexure of the colon. These masses were removed.

Examination of the tumors after removal showed those on the right of the uterus to have been made up of a cyst of the broad ligament, about three inches in diameter, and a cyst somewhat smaller resulting from the dilatation of the fimbriated extremity of the right tube. This latter cyst was connected with the remainder of the tube by a small circular opening with thickened edges. The uterine end of the tube was much less dilated than the middle portion, but the walls were greatly hypertrophied. Below the middle of the tube was a small red mass which was probably the remains of the right ovary. The left ovary and tube were intimately adherent. The former contained a number of small cysts.

Dr. Whitney, in a report of the specimens said: "The Fallopian tubes left with me show the result of chronic inflammation with retention of the secretion. The fluid which came from the left tube contained fatty degenerated epithelial cells. As to the relation of the larger cyst to the right tube, I am inclined to think

<sup>1</sup> Read before the Obstetrical Society of Boston, February 12, 1887.

that it is wholly tubal, the valve-like opening being merely a connection between the dilated and twisted tube; at any rate the lining is identical in both parts. The thin-walled cyst is probably one of the broad ligament, since the peritoneum covers it.\*

The patient soon after coming under the ether had a collapse, stopped breathing, and did not rally until she had been inverted.

The operation was completed and the patient was put to bed in fair condition, although the pulse was weak. She took nourishment and stimulants well, and there was no vomiting or pain. The temperature, however, remained slightly subnormal until the third day, when it rose to 100°. The pulse rose to 120. She was given and retained large quantities of stimulants, but she gradually became weaker and died on the third day. The loss of blood had been small, and there were no signs of septicæmia. The cause of death was collapse.

The normal secretion of the Fallopian tubes is slight and finds its way not into the uterus but into the abdominal cavity, where, being innocuous, it is absorbed and does no harm. [Schroeder.]

Closure of the uterine end, therefore, does not produce hydrops tubæ. When the peritoneal end of the tubes is closed, it allows a collection to take place and a hydrop results. Usually both ends of the tube are closed. When the uterine end of the tube is open and the distension of the tube is great, there may be periodical discharges of the fluid into the uterus; this has been called *Hydrops Tubæ Profusus*. The amount of distension of the tubes which is possible, is very great. Peaslee tapped one case and withdrew twenty pounds of fluid. Usually the greatest distension occurs at the peritoneal end of the tube.

The cause of the closure of the fimbriated extremity is either cicatricial ulceration or inflammation from within or from without the tube. The growth of a tumor may also be the cause of the closure. Often the extremity becomes attached to an ovarian tumor, and later on, this tumor may connect with the cavity of the tube.

The inflammatory causes are usually a general or local peritonitis or endometritis which extends into tubes.

Beside the above, there are certain cases of congenital closure of the tubes. Occlusion may take place anywhere along the tube or at several places, and a number of individual cysts may result.

In the majority of cases hydrops is a bilateral disease. It seems to the reader not unreasonable to suppose that some of the cases of *hydrorrhea gravidarum* and also of *hydrorrhea non-gravidarum* may be due to distended Fallopian tubes which force their contents into the uterus and vagina.

Concerning the diagnosis of hydrops tubæ, it may be said that the dilated tube has usually a sausage shape with irregular outlines, extending transversely across the pelvis. The tumor usually moves freely and distinctly from the uterus. If the distension is very great it may be impossible to distinguish it from other cystic tumors of that region. The contents may vary from a thin clear albuminous serum to a thick whitish fluid. To distinguish from a *pyosalpinx* the clinical history of the patient must be considered.

*Pyosalpinx* is usually accompanied by signs of supuration; pain, tenderness, fever and exhaustion.

Many, it might be said most, cases of *hydrosalpinx*

do not call for interference. They exist and are unknown to the patient, and their existence is not a source of great danger. They sometimes cause troublesome displacement of the uterus. Local treatment is of little use. Tapping frequently fails and is not without danger. The feeling of the writer is that, where interference is necessary, extirpation is called for both in *pyo-* and in *hydrosalpinx*.

## RECENT PROGRESS IN CARE OF THE INSANE.<sup>1</sup>

BY WALTER CHANNING, M.D.

### EXPERIENCE WITH PATIENTS IN DETACHED BUILDINGS.

UNDER this heading Dr. Dewey gives some results of the Kankakee experiment. He says they have had three detached wards with one hundred patients, in use for six years; six such wards with two hundred patients, in use for four years; and for eighteen months eighteen buildings in use with an average of over eleven hundred patients in them, though not full until June, 1886.

The expenses have not been any greater "than those of similar institutions on the 'linear' plan, nor the care of the patients presenting any greater complications. . . . And as far as the welfare of the patients occupying these buildings is concerned, their condition has been in some buildings peculiarly happy and comfortable, and in none of them have any greater discomforts and inconveniences been noticeable, than the same class of patients would encounter under any circumstances. The amount of help required averages relatively about the same as in an average congregated asylum."<sup>2</sup>

One very interesting feature of these detached buildings, is a large dining-room for four hundred male patients. These patients are the able-bodied and inoffensive class, and a large number of demented, more or less destructive and untidy, and all of them have to travel two hundred and fifty feet in the open air in all weathers to reach the dining-room. The latter arrangement is almost, or quite unique in insane hospitals.

The disadvantage of this plan is the difficulty of supervision of such a large number, especially when the weather is bad, and when the days are short and breakfast and supper are gone to in darkness.

The advantages, however, outweigh the disadvantages. The patients show a gain in health, and the attendants are obliged to look more carefully after their clothing, than would otherwise be the case. The food is also received in much better order than in ordinary ward dining-rooms.

The per capita cost of the Kankakee institution has been much less than that of most of the linear hospitals.

As a further example of the widespread tendency to provide separate buildings for different classes of the insane, the Michigan Asylum for the Insane may be mentioned.<sup>3</sup> The trustees, in their last report, state that the main asylum building is crowded, and they clearly show that simple, inexpensive buildings can be erected for a large number of the patients, in which, under proper medical supervision, they can be made comfortable, beside receiving such treatment medically as may be necessary.

<sup>1</sup> Concluded from page 354.

<sup>2</sup> Biennial Report, 1885-86. Trustees' Report.

"For want of a better term," they say, they call their plan the "colony system." It is to be regretted that they make use of the word colony, as it has been used to represent a plan of providing for the insane not sanctioned in most countries. Ghel is the prominent illustration of the colony plan, which, though well enough for Belgium, is not to be recommended for other countries. The Michigan trustees have a widely different plan in view, and it is very desirable that they should find a name for it with fewer objectionable associations.

"Their plan contemplates establishing a colony of chronic and quiet patients in some healthy farming locality, near to the institution by which it is to be managed, and from which it is to receive its patients, and derive most of its supplies. To establish this system, the institution should have, at least, six hundred acres of grass land. . . . On this tract of land colony-houses could be erected, each with a capacity of thirty beds, to be plainly, but substantially built, at an expense not to exceed \$6,000 each. . . . There should also be a cottage for the resident physician, to be placed near to, and in direct communication with all the colony houses and the asylum proper, by means of telephones, so that the business of the institution can be easily conducted at one central office. The land should be divided into farms: one for raising milk, one for making butter, one for growing stock, and one for cultivating fruit and vegetables, which will afford a variety of suitable occupation for very many male and female patients."

The general plan seems an excellent one, though it is hard to understand how a suitable building can be erected for thirty insane persons, with the proper appliances for heating, supplying water, ventilation, fire-apparatus, etc., for \$6,000, or \$200 per capita, especially if, as is stated elsewhere, the buildings are to be two miles away from the central building. This long distance will make it more difficult to connect with the general engine-house, and to reach the laundry, bakery, refrigerator building, kitchen, store-rooms, chapel, amusement hall, etc.

To make the carrying-on of the institution economical, as well as easy, all these departments should be easy of access; and the first cost of building will be much lessened if kitchen, dining-rooms, store-rooms, laundries, bath-rooms, etc., do not need to be duplicated.

However, it is to be supposed that Dr. Palmer, the experienced superintendent, and the trustees, have thought over all these points, and discovered some practical solution of them. Two buildings only are to be erected at present, each of which is not to cost over \$5,000.

Among the institutions which have already made use of detached buildings, or are now considering the question of so doing, are: the Connecticut State Hospital; Norristown, Pa., Hospital; Toledo, Ohio, Hospital; North Dakota Hospital; Wisconsin State Hospital; Athens, Ohio, Asylum; Butler Hospital, Providence, R. I.; Boston Lunatic Hospital; Oregon State Insane Asylum; Topeka, Kansas, Asylum; Government Hospital, at Washington, D. C.; Northampton, Massachusetts, State Lunatic Hospital.

#### THE COLORED INSANE.

Dr. P. Bryce\* and Dr. R. Barksdale\* refer to this

class of the insane in their last reports, and state that added buildings will be needed for their accommodation.

Dr. Bryce says: "The increase of insanity among the colored people since their emancipation has been very remarkable. The federal census, in 1850, reported in the whole United States but 638 colored insane; and in 1860, the number had increased to only 766, or say one for 5,799. Returns for 1870 show one for every 2,695, and in 1880, we find one for every 1,096. If this rate of increase is maintained, we may expect to find, in 1890, about the same proportion for both blacks and whites, which is about one for every 500 inhabitants."

Dr. Godding, of the Government Hospital, urgently asks for an appropriation to provide accommodations for the 183 colored insane persons in his institution.<sup>10</sup> He says that it is not pleasant, either to the colored or to the white patients, to be treated together.

In the annual report of the Eastern North Carolina Insane Asylum for 1886, the superintendent, Dr. Roberts, refers to the colored insane in these words: . . . "It is evident that we need increased accommodations for the colored insane. . . . While there is a vast breach between the race and the tax-paying portion of our citizens, socially, morally, politically, yet, carp as the pseudo-philanthropist may, the old slave-owner is the negro's best friend, and has for him the most genuine pity in times of affliction. Thrown on his own resources, with the cares of life and the support of his family; surrounded by temptations to indulge his passions, lusts, appetite, etc., from which he was partially, if not wholly exempt in his slavery, it is no wonder that his mental balance gives way."

In connection with the colored insane, it is interesting to know that, in the California asylums at Stockton and Napa, there are in the vicinity of 150 insane Chinamen. At Stockton, there are 67 males and 3 females. Dr. W. H. Mays, the medical superintendent, states that, in proportion to the number of Chinese in the State, insanity is particularly rife among them.<sup>11</sup>

#### CLASSIFICATION OF MENTAL DISEASES.

This subject is one always considered by all authors of works on insanity, usually with results that may be satisfactory to the individual writer, but not to readers in general.

A new interest has recently been imparted to further study in this direction by the efforts of the Society of Mental Medicine of Belgium. An International Committee to prepare a report on the subject was appointed at Antwerp, in September, 1885, which has done considerable work since that time.

Systems of classification have been prepared by Professor Verga, of Italy; Meynert, of Austria; Wille, of Switzerland; Lefebvre, of Belgium; Steernberg, of Copenhagen; D. Hack Tuke, of London; and others. All of these systems present many excellent points for adoption from a scientific point of view. Space will not permit an analysis of them here, but one of them is given for consideration. It is that of Meynert, and is as follows:

Idiocy.  
Simple Mental Disorder.  
Acute Melancholia.  
Mania.  
Insanity.  
Primary Imbecility.

\* Biennial Report, Alabama Insane Hospital, 1885-86.

\* Annual Report, Virginia Central Lunatic Asylum, 1885-86.

<sup>10</sup> Annual Report, Government Hospital for the Insane, 1886.

<sup>11</sup> Annual Report, 1886.

Chronic Primary Insanity.  
Intermittent Mental Disorder.  
Secondary Mental Disorder.  
Complicated Mental Disorder.  
Paralytic Disorder.  
Epileptical, and Hystero-Epilepsy with Brain Diseases.  
Toxic Mental Disorders.  
Alcoholic Delirium.  
Other toxic forms.  
Individuals who need watching.  
Attempts at Suicide, Crimes, etc.

This arrangement of Meynert's is probably a satisfactory one to Germans, but would not be to Americans. More especially is this the case in the present instance, as the efforts of the International Committee were to be exerted to offer a classification which might serve as a basis for international statistics of insanity, and not to represent the highest scientific point to which a system might be developed. For this purpose, the simpler the arrangement, the more practically useful it would be, and hence simplicity is apparent in nearly every system.

Clark Bell, Esq., the present President of the New York Medical-Legal Society, was the member of the International Committee for North America; and, at his request, delegates were chosen by various societies to attend a meeting called by him at Saratoga in September, 1886, to prepare a system for this country, which he could present in his report to the International Committee.

At this meeting or conference, the following points were regarded as settled: (1) That the proposed classification should be framed with special reference to its practical use, for the purpose of securing a uniform basis for international statistics. (2) That it was not deemed desirable to make a complete, detailed scientific classification of insanity, but as simple a classification as could well be framed, keeping in view American ideas on the subject of insanity.

The plan of classification finally settled on was modelled somewhat after the English one, and is as follows:

1. Mania
  - { Acute.
  - { Chronic.
  - { Recurrent.
  - { Puerperal.
2. Melancholia
  - { Acute.
  - { Chronic.
  - { Recurrent.
  - { Puerperal.
3. Primary Delusional Insanity (monomania).
4. Dementia
  - { Primary.
  - { Secondary.
  - { Senile.
  - { Organic (tumors, hemorrhages, etc.).
5. General Paralysis of the Insane.
6. Epilepsy.
7. Toxic Insanity (alcohol, morphine, etc.).
8. Congenital Mental Deficiency.
  - { Idiocy.
  - { Imbecility.
  - { Cretinism.

It was not claimed by those present at the Saratoga conference that the system was perfect, or even, perhaps, approximately perfect; but it is simple enough to be made use of by the average insane hospital superintendent, and can easily be used in tabulating hospital statistics.

As a basis to start from to establish an international standard of classification, it appears fairly satisfactory; and, in bearing a strong resemblance to the proposed English system, it possesses the advantage of making harmony of action between England and America extremely easy. These two countries may be able to unite on a system, as the first step toward a more extended international system.

## Clinical Memorandum.

### THE TREATMENT OF CHRONIC UREMIA.

BY J. B. AYER, M.D.

A PATIENT, fifty-one years of age, who died November 19, 1886, from progressive contraction of the kidneys (as shown by autopsy), was, during the last nine months, a sufferer from chronic uremia, although he performed satisfactorily the duties of an important office during the greater portion of this period.

His father died from an unknown urinary trouble, and a brother from chronic Bright's disease. There is said to be further history of kidney disease in the family.

The first symptom of nephritic disease was slight epistaxis four years ago, which was not repeated. At that time his disposition changed. He took less interest in playing with his children, and in reading to them at night. He became more reserved, went to bed early, and grew older rapidly.

The next prominent symptom was in March, 1885, when, one evening, he suddenly lost the sight of his left eye, the right eye remaining unaffected. However, he slept well, and next morning the sight was fully restored, and remained so. The third noteworthy symptom was in the fall of 1885, when he suddenly fell to the floor, losing consciousness for a moment only.

Nothing of marked importance occurred up to the period of my first attendance, February 15, 1886, and kidney disease had not been suspected. He then weighed 197 pounds; arose every morning early to take a cold bath; took long walks; slept well, and only complained of depression of spirits, of nausea, and of occasional dizziness.

There was no oedema then or subsequently. The urine was then slightly in excess of normal, and so continued up to the last month of life. All the specimens examined contained a considerable layer of albumen. Urea, which, at the first examination, was diminished to sixty-six per cent. of the normal amount, steadily decreased, until, in the last week of life, only one-quarter of the normal amount was voided. Very few casts were ever found—hyaline and granular forms. He steadily lost flesh and strength, and was constantly worrying about himself.

March 30, 1886, while at a concert, he came near losing consciousness, vomited freely, and was taken home in a half-stupid state; but he entirely recovered on his arrival home, and joked with the anxious relatives who had hastened to see him.

Last summer, there were times, after dark, when he was quite confused. Would get out of bed, and would not be able to find his way back; would, perhaps, be found on the sofa, cold and apparently lifeless. In the morning he would analyze the symptoms of the previous night, his mind being again perfectly clear.

During the fall his mind became clearer by night, but his strength rapidly diminished. He spoke of a dull pain in the occipital region, but his principal complaint was: "I feel badly all over." As soon as the duties of the day were over, he began to worry about himself. Three days before death he sank into a state of coma.

Undoubtedly the free diuresis, which continued up to the last month of life, will account for the great

preponderance of chronic uræmic symptoms over those of acute uræmia in this case. That the chief symptoms of Bright's disease, to quote Fagge, are in many cases cerebral, have been well known from an early period in its history, but there have been wide differences of opinion as to their mode of origin, which have not prevented their being called uræmic. There seems to be no doubt that uræmia is produced by the poisonous action upon the nervous centres of materials accumulated in the blood, as the result of defective excretion by the kidneys.

As Rommeleus says, "there are many theories, but one thing alone we may accept as invariable, namely, that the maladies which entail uræmic disturbances are characterized, at the time when uræmic complications break out, by the presence in the tissues of the body of an excessive amount of nitrogenous, excretory material."

We know that urea which is wholly or in part the toxic agent is derived from many sources, but principally from (a) retrograde metamorphosis of tissue (including the blood), and (b) from excess of nitrogenous food.

Attention to diet is, consequently, of prime importance in the treatment of uræmia.

An exclusive milk diet, or one made up largely of milk, is favored by the best authorities. Milk contains the right proportion of nitrogenous to non-nitrogenous food to form a perfect diet. It also has the advantage of being a good diuretic.

In our case the patient was benefited by milk diet, which he frequently took with avidity, and which, his wife noticed, had a soothing effect upon him. Unfortunately, he was frequently nauseated and made costive by it, in spite of many methods adopted, with the hope of making it more digestible and laxative.

When milk was not tolerated, other forms of liquid diet were ordered, and a certain amount of digestible meat and of farinaceous and fatty food, but as little albuminous food as possible. The theory that the loss of albumen should be made up by an extra amount of albuminous food is absurd, when we consider that the daily loss of albumen in this case did not exceed the albuminous contents of a single egg. It is a good rule not to over-feed the patient. Unless the diet is of liquid character, a large amount of pure water (Dr. Webber says fifty-two ounces daily) should be taken between meals. I could discover no advantage in Lithia water in this case. Any pure water may be taken.

Alcohol does harm, except for nausea, when a little dry champagne is indicated; or, for anorexia, when a small amount of sherry wine may be taken with food.

Diuretics proper (scopolamine, nitre, and juniper, the best of the class) were not needed in this case; but digitalis was given to "save the heart from strain," and the diuretic influence of water has been fully considered.

Diaphoresis, by keeping the bed and by warm baths, was recommended by Bright and Christison. I believe that twelve hours (at least) out of the twenty-four should be spent in bed when chronic uræmia exists. It is important to keep the temperature of the body even, and the perspiration free by wearing proper clothing; and, if patient's means allow, it will be advisable to recommend a permanent residence in a warm, dry climate. It is a fact that diseases of the kidney (except the lardaceous form) are not common

in warm climates. Pilocarpine is often useful in warding off acute uræmic symptoms.

Laxatives must generally be used when the milk diet is taken. Hunyadi water acted well with our patient. When acute cerebral symptoms threaten, clisterium may be indicated.

Sedatives. Bromides, in ten-grain doses, seemed to act well in this case in quieting the patient at night. This was important, as there was a tendency to more frequent micturition by night than during the day.

Most authors, to-day, favor the use of morphia in Bright's disease when that drug seems indicated. I have used it subcutaneously in paroxysms of renal asthma, and would not hesitate to employ it in severe neuralgia accompanying chronic uræmia, provided the patient were not an alcoholic subject. It was not indicated in the course of the case we have reported. Dr. Edes states that he has never seen a more completely favorable action of morphia, with all advantages and no disadvantages, than in excessively severe headaches in contracting kidneys.

Tonics, in our case, were not beneficial.

It seemed best to allow the patient to attend to his official duties. In this way, he obtained relief from his anxious thoughts for a few hours daily, undoubtedly prolonging life.

Finally, we can say with Bartels: "The treatment is essentially that of earlier times. So far as practice is concerned, the theoretical controversies over the nature of uræmia have proved utterly barren." And with Bright (1836): "With care, life may sometimes be prolonged many years, and without care, it is materially shortened."

## Reports of Societies.

### BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. RUCKINGHAM, M.D., SECRETARY.

MARCH 14, 1887, the President, Dr. O. F. WADSWORTH, in the chair.

Dr. E. H. BRADFORD being absent, his paper, entitled

A CASE OF MCLEWEN'S OPERATION FOR RADICAL CURE OF HERNIA,

was read by Dr. E. G. CUTLER. The following is an abstract:

Various attempts have been made in the last fifteen years or more, with the help of strictly aseptic details, to cure hernia radically by ligature of the sac suture of the sac, either cutting off the sac, or rolling and twisting it into a mass, which is secured in the ring, if possible, for the purpose of acting as a plug or pad. These attempts have been, in many cases, successful; but in a number of cases relapses have occurred two or three times after the operation, and the patients, although helped, have not been cured.

Andregg, collecting one hundred and five cases of his own, watched during a period of from seven months to seven years, found relapses in thirty-nine per cent., which justifies the statement that, in a large number of instances, the benefit of the operation consists of making an uncontrollable hernia controllable. As Banks has clearly pointed out, the chief difficulty encountered is that of making the internal surface of the abdominal wall perfectly flat, for if any depression

outward remains at the inner surface of the internal ring, the omentum and intestine pressing on it will gradually force it open. It is manifestly impossible, by any suture, to sew the internal ring flat; and if that is not done, pads of sac, or suture of the external ring, though a help in many cases, are not to be depended upon in the severer cases. Even Banks, although recognizing fully the difficulty, and devising an operation of twisting the sac within the ring, and securing the twisted coil by suturing, thus preventing the untwisting, is unable, in all instances, to secure the desideratum of a flat internal surface of the abdominal wall.

McEwen's operation is so new a one, comparatively, that the Society will, perhaps, pardon the mention of it in some detail, and the report of a single case.

His aim is to pull the sac within the abdominal cavity, and place it, in a compact and wrinkled condition, on the inside of the internal ring—a pad, with the convexity pressing backwards into the abdominal cavity (under the peritoneum), around and beyond the edges of the sewn-up canal.

In brief, the details of his method are as follows: The sac is separated from the surrounding parts, and, by the help of a director or finger, freed from the outer ring, the cord, and from attachments in the canal. The finger is then passed up within the canal, and the peritoneum adjacent to the internal ring is separated by finger, detaching it from the attachment to the belly wall to an extent of half-an-inch around the inner opening of the internal ring. A needle (with a handle or needle-holder), threaded with stout catgut, knotted at the ends, is then passed through the sac, beginning at the lower end in such a way that the catgut will transfix it, as a basting-stitch or the cord in a Venetian blind. The needle is then passed through the internal ring, between the stripped-up peritoneum and the abdominal wall, and then pushed through the abdominal wall. On pulling on the catgut after the needle has been removed, the mass of sac can be pulled through the canal, and placed between the peritoneum and the internal ring. The ring should then be sewn in the usual way, except that McEwen advises passing a loop of suture through the fascias, as near the internal ring as possible; and then, after again threading with two needles, the two projecting ends of suture, to pass them through the outer edge of the incision, near the external ring. This, on tightening, will roll the parts so as to act as a flap, closing the canal.

When the hernia is congenital, the sac, after separation from the cord, is to be divided above the testicle and sewn up below, so as to form a tunica vaginalis, and above so as to form a sac, to be returned as above described.<sup>1</sup>

DR. WARREN, being called upon to open the discussion, said that he had had little experience with the radical cure of hernia, but he did not see that McEwen's operation differs much from others. In dissecting the ring, we find no particularly tough places giving support; nevertheless, the proportion of relapses occurring in the practice of experienced operators is not very encouraging. Why this should be so is not very clear. Possibly patients are not kept in bed long enough after operation. It is true that there are many cures. So there are by treatment by truss, and this is pretty surely so under twenty-one. With a recent hernia below that age, he gives an encouraging

prognosis. The truss must be put on before rising, and taken off after going to bed. Adults may recover in the same way, and quacks advertise, what is the truth, when they claim that it is done. The cures by truss in adult life are, however, the exception. One set of statistics gave two hundred cures in twenty thousand cases.

DR. CUTLER said that McEwen had now operated on hernia by his method over forty times, and had, so far, had no relapse.

#### CASES OF ORTHOPÆDIC SURGERY.

DR. BRADFORD showed, for the forcible correction of severe contraction at the knee-joint, *with* subluxation of the tibia backwards, an appliance to be used, an anæsthetic, and reported several cases of forcible under-straightening. The method is only applicable to such cases as present no bony anchylitis, but with strong fibrous adhesions. When subluxation is present, it offers a troublesome complication, for the removal of which the ordinary means of section of the ham-string tendons, followed by mechanical extension, will not entirely suffice. When the force is gradually applied in the ordinary way, in severe cases, complete correction does not take place, for the reason that the skin over the knee (where counter-pressure must come) is unable to stand the necessary pressure. A direct pulling force alone will not bring the tibia forward, if firmly adherent in the position of subluxation.

The appliance shown by Dr. Bradford was based on the principle that great momentary pressure could be applied without injury to the soft parts, as has been demonstrated by the osteoclast.

Before any attempt to straighten the limb, forward pressure for the correction of the subluxation should be made (the patient being anesthetized) by a screw-force on the calf of the leg, as near to the popliteal space as is practicable, the counter-pressure being regulated by straps over the lower end of the femur (condyles) and the lower part of the leg. It will be found that the tibia can be pushed forward without injury to the vessels or muscles. After this is done, extension of the limb can be made, the forward force on the tibia being increased, if necessary. After correction, the limb is to be placed in a fixed bandage.

DR. WARREN said that it is almost impossible to replace the bones by mere extension and bandaging. In that case some shortening remains, even if extension be made under ether.

DR. WATSON spoke of the advantage in the apparatus described by Dr. Bradford for knee-deformity over that formerly used, in which attempts were made at extension by gradually increasing the angle between a calf and a ham-splint, which motion did not tend to push the head of the tibia into place.

#### ENCYSTED PERITONITIS FROM ABSCESS OF LIVER.

DR. J. B. AYER showed the specimen, and reported the case as follows:

MR. B., forty-eight years old, has had no serious illness, but during the past fourteen years has suffered from looseness of bowels, seven or eight discharges daily, frequently of mucus character and involuntary.

He felt pain in right inguinal region February 8th, but kept himself employed at his desk till February 17th, when Dr. Ayer saw him and treated him for bronchial catarrh. As fever diminished in the course

<sup>1</sup> New York Medical Record, March 5, 1887, p. 261.

of four days, the pain in the abdomen became more marked. On the 25th, fever reappearing, he asked Dr. Warren to see him, and the following day Dr. Warren and Dr. Fitz examined him. At that time the only abnormal condition to be made out was a circumscribed pain in the region above the anterior superior spinous process. During the thirty-six hours following the examination he passed mucus, pus and blood to the extent of five ounces, and it was hoped that relief would follow.

He did seem more comfortable for a day or two, but the swelling becoming more prominent, and temperature rising, Drs. Warren and Fitz again saw him March 4th, and as there was present a circumscribed tumor as large as a fetal head in the inguinal region, advised an immediate operation. The same day the former, with the assistance of Dr. M. H. Richardson, made a transverse incision evacuating a pint of pus.

The wound did well and recovery would have followed but for double pneumonia coming on with chills March 5th, death occurring on the tenth day.

Dr. Fitz made the autopsy and found:

(a) Acute fibrinous pneumonia of left upper lobe and of right lower lobe, the former firmer and apparently more recent.

(b) The abdominal wound communicated with a circumscribed peritoneal abscess which opened into the upper part of the anterior edge of the right lobe of the liver into an hepatic abscess as large as a plum.

(c) Liver enlarged one-third, injected, presented no abnormal appearances.

(d) Rectum thickened, especially muscular coat; its mucous membrane swollen and pigmented—in general free from ulceration. Fat tissue about rectum showed occasional fibrous septa. Apparently a couple of ulcers in lower part of rectum. Nothing abnormal elsewhere.

Conclusion. Abscess of liver from chronic dysentery—the abscess causing encysted peritonitis for which an operation was necessary.

Dr. WARREN says that the case simulated typho-enteritis. There were certain features that made it not advisable to operate when he first saw the case. There was dulness, but it was not complete, and a faint resonance over the seat of pain just above the anterior superior spinous process. Three days before death there was a discharge of bile. No peritonitis followed operation, and death was due to other causes.

#### TENIA SAGINATA REMOVED BY PELLETERINE.

Dr. BUCKINGHAM showed under the microscope, the head of a *tenia saginata*. This worm, otherwise called *tenia mediocanellata*, is the worm of the cysticercus of beef, and is said to be the most difficult of the human tape-worms to expel. With this particular worm success followed only the seventh attempt, which was made with pelletterine, the previous attempts being with male fern and with pomegranate. One of the attempts with male fern, which was made by another physician was nearly successful, bringing all but the head.

In looking up such authorities as had come in his way, the speaker had become impressed with the fact that while there is strong evidence that *kameela* and *houso* are very effective in their own countries, yet turpentine and pomegranate seem to be universally well spoken of. The statement is made by Tanret

that pomegranate varies in its power according to the age of tree as well as the climate, and also with the time of year when it is gathered; also that it deteriorates with age. Pelletterine is one of the four active principles of pomegranate.

It is said to be the fact that the sulphate if given alone, is too rapidly absorbed with possibly dangerous effects, but that the tannate, which has however a bad taste, or the sulphate combined with tannic acid are safer; the dose of the sulphate being three decigrams, with the addition of tannic acid. His patient had taken it in the form put up by Tanret, but there seems to be no reason why an extemporaneous prescription should not be written. Soon after taking the medicine there was some flushing of the face and peculiar sensation in the head, with so much nausea that a cathartic, directed to be taken in half an hour, could not be taken for an hour and a quarter. It is worth while to call attention to v. Schroeder's experiments with this drug in the laboratory of Strassburg, which agree with the clinical results of many observers, that the pomegranate should be taken in one or two doses; and not as recommended in the United States Dispensatory, in small doses repeated over a considerable time. This last has the further disadvantage of unnecessarily prolonging starvation.

Dr. A. T. CABOT showed the specimens from

#### THREE CASES OF STONE IN THE BLADDER REMOVED BY LITHOLAPAXY.

CASE I. A man of about sixty was operated upon early in February. The stone weighing 110 grains and was very friable, being reduced to a fine powder by a crushing lasting only four minutes. Considerable obstruction was found in the prostate, and although there was no sign of blood during the operation it was followed by a hemorrhagic cystitis, due apparently to the sudden emptying of a bladder habitually distended. In spite of this and of the fact that a catheter had to be tied into the bladder for several days on account of complete stoppage, the case ran on a febrile course, and recovery though slow was steady.

An interesting feature in this case was that an examination of the urine previous to the operation, showed the presence of arrow-head uric acid crystals, which Ultzmann regards as evidence of stone in the pelvis of the kidney. There had been at no time any kidney symptoms in this case.

CASE II. Was that of a man seventy-seven years old, with a greatly enlarged prostate, requiring the constant use of the catheter. The stone was a soft one, and weighed eighty-six grains. Recovery was uninterrupted and quick.

CASE III. The patient was a man of seventy-six. He had a long prostate, much congested, as was shown by the amount of bleeding following the slightest instrumentation.

The stone was a hard uric acid calculus of 120 grains, and was removed February 25th.

This operation illustrated the difficulty in seizing the fragments when there is any amount of hemorrhage; for the blood collecting in the bottom of the bladder prevents the fragments from falling into this pocket where they can be easily found, and therefore makes a more protracted search for them necessary. Recovery in this case was steady and without any fever.

## RESECTION OF ELBOW.

DR. MIXTER showed sections through the joint from a case of Dr. Warren's.

DR. WARREN said that he had lately written to a number of old hospital cases in order to get permanent results. One patient operated upon in 1866, had a flail-like joint with great power in certain directions. Two operated on for ankylosis had better power, three operated on for disease had a half motion. There were four or five others.

## TUMOR OF UTERUS: LAPAROTOMY.

DR. MIXTER showed the specimen for Dr. M. H. Richardson. Growths had been going on for about a year. But one broad ligament and one ovary were seen, and puncture with a trocar showed the tumor to be solid. The tumor was transfixed by two knitting needles and a rubber-tube applied as a tourniquet before removal.

## OSTEO-SARCOMA.

DR. MIXTER showed the specimen for Dr. Beach; also several macerated specimens.

## PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

FEBRUARY 12, 1887, the President, DR. WILLIAM L. RICHARDSON, in the chair.

DR. F. B. HARRINGTON reported, by invitation, a case of

LAPAROTOMY FOR HYDROSALPINX.<sup>1</sup>

## DOUBLE PYOSALPINX OF UNUSUAL SIZE.

DR. J. W. ELLIOT showed drawings of a specimen of pyosalpinx which he thought was the largest on record which had been successfully removed by laparotomy. The left Fallopian tube was dilated at a point near its outer end to the size of a cocoanut, and contained between seven and eight ounces of pus. "The right tube was nearly an inch and a half in diameter at its widest part, and doubled upon itself. Each part was some three inches in length and was adherent to its fellow. On opening the tube the canal was found to be cork-screw like, and valvular septa projected into the interior, forming sacculi corresponding with the convolutions seen from without." (Dr. Fitz). This tube contained a yellow puriform fluid and a quantity of soft, cheesy material.

The patient had been sent to Dr. Elliot for operation by Dr. Dunn. She was twenty-nine years old, and had been married one and one-half years; was healthy in her general appearance, but complained of having two tumors, one in each side, which she could easily feel. She had never had a white discharge and had never been pregnant. Her menstruation was perfectly regular, normal in amount, and without pain. She had first noticed the tumors three years ago, and they had slowly grown since that time. She suffered from partial obstruction of the bowels, which her physicians had told her was due to the pressure of the tumors. On examination, Dr. Elliot found a hard tumor on the left side about as large as a cocoanut, which he considered an ovarian cyst. On the right side the Fallopian tube was distinctly felt with its

characteristic convolutions, as large as a man's fist. Laparotomy was done on January 25th. The left tube was extensively adherent and imbedded in the broad ligament. The right tube enlarged so close to the uterus that there was no pedicle; it was necessary, therefore, to amputate it without clamp or ligature, and to take up the vessels separately. The operation was severe, lasting two and one-fourth hours. Pus escaped into the abdominal cavity, and a glass drainage-tube was accordingly placed in the abdominal wound. The patient made an excellent recovery, and was sitting up on the fourteenth day.

In reply to questions Dr. Elliot said he believed it was now well established that the best treatment of pyosalpinx was extirpation by laparotomy, and not puncture per vaginam and drainage. In regard to hydrosalpinx, the question of treatment was unsettled. Dr. Harrington's case was one of peculiar difficulty; but the question is still open whether it is not better to aspirate such tumors through the vagina. Simpson and Mundé have treated hydrosalpinx in this way with success. This does not apply, of course, to ovarian cysts.

DR. HOMANS said that the differential diagnosis between pyo- and hydrosalpinx was often difficult to make; but given a case of pyosalpinx, there was no question in his judgment but that the proper treatment was to remove the sac and its contents. These tumors are usually removable, and tapping is a slow, tedious and doubtful process, and fatal in a very large proportion of cases. He thought Dr. Elliot was fortunate in the recovery of his case, after having spilled some pus into the peritoneal cavity. A case he had seen in London, in which each tube had become a tumor twelve to fifteen inches long and two or three inches in diameter, had terminated unfavorably from the spilling of two or three drops of pus into the peritoneum during laparotomy. The operator did not drain in this case, however, as Dr. Elliot had done in the case reported.

DR. BOARDMAN agreed with the previous speakers, that extirpation was the proper treatment for pyosalpinx. No doubt the tubes had sometimes been removed unnecessarily or for insufficient reasons; but conservatism should not stand opposed to operation in proper cases. He had no belief in the common idea that the removal of the tubes unsexed a woman: patients with diseased tubes were already sterile. Being asked to define the term "unsexing," Dr. Boardman quoted Madden's definition, that the "unsexed" woman is gross in appearance, has a masculine voice, and has lost her sexual desire, this last characteristic being the one popularly associated with the term.

DR. HOMANS said that from one patient afflicted with marked nymphomania, he had removed both ovaries and tubes on account of a large fibroid tumor. The patient was glad to have the operation performed, hoping thereby to be relieved of her intense sexual desire; but the operation had no effect on this condition. Another patient, with an ovarian tumor, who had previously no sexual feeling, after ovariectomy had a boundless sexual appetite. Still another patient was in no way different in respect to her sexual feelings after removal of her ovaries from what she had been before. He thought, therefore, that the effect of removing the ovaries could not be predicted in this particular. He had never noticed any change in the voice; but such patients became stout and fat.

<sup>1</sup> See page 371 of this number of the Journal.

Regarding the operation of oöphorectomy for the relief of certain nervous symptoms, Dr. Homans said that in only one case of his own had the operation been efficacious. This was the case of a young woman who had been in an insane asylum from the age of nine, and was very violent at the menstrual epoch. She was entirely cured by oöphorectomy. In another case of insanity the patient was better for a year; but the ultimate result was not beneficial.

Dr. DAVENPORT said that within a week he had seen a patient whose ovaries had been removed two years ago, for disease and for the relief of certain nervous affections. The nervous symptoms were no better: she still had the menstrual molimen, with feelings of weight in the pelvis, and headache; she had grown stouter. She had more sexual feeling than before the operation; but intercourse was followed by prostration, and there was no orgasm.

Dr. INGALLS inquired as to the nature of the nervous symptoms for which oöphorectomy was recommended by some writers; and what reason there was to suppose that the relief from the symptoms would follow the removal of the ovaries.

Dr. HOMANS said the train of symptoms was as follows: a good deal of discomfort at the menstrual period, sometimes associated with mania; mental depression; emaciation; constant thought of the sexual organs; tenderness, either real or imaginary, over the ovaries; the uterus small or atrophied; the patient bedridden or nearly so.

Dr. HARRINGTON said that the great majority of cases of hydrosalpinx do not call for operation; but when the tumor is so large as to simulate an ovarian cyst, he believed it was better to treat it as such and remove it. These cysts often do refill, and become a source of danger from frequent tapping. The cyst in the case he had reported emptied itself; but no cure took place. When a tumor is discovered, one should try to make an accurate diagnosis; if there is doubt, it was well to puncture for diagnostic purposes.

Dr. ELLIOT said there were no constitutional symptoms to suggest pus in the case he had reported, and he thought he was to deal with an ovarian cyst. Some pathologists believe that even pyo-cysts cure themselves, as they are so seldom found at autopsies: few nephritic calculi are found at post-mortem examinations; yet surgeons find them and remove them. If pyo-cysts are neglected, they may continue to grow and cause peritonitis and pyelo-nephritis from pressure on the ureters.

The PRESIDENT inquired how the watery discharge in a case of hydrosalpinx could be distinguished from hydorrhea gravidarum.

Dr. HARRINGTON said that perhaps the fimbriated extremity of one tube has been long occluded and pregnancy has recurred through the other tube: fluid may accumulate during pregnancy in the occluded tube, and towards the end of gestation, the pressure may be sufficient to push away the membranes, and the fluid thus escape as an hydorrhea gravidarum. Or the water may escape after labor.

#### THE TREATMENT OF FISSURED NIPPLE.

Dr. BOARDMAN spoke of a case of fissured nipple, in which the application of cocaine enabled the patient to suckle without pain. The baby was in nowise affected by the cocaine.

Dr. REYNOLDS thought that all applications to fis-

sured nipples were of little value compared with mechanical protection. The desideratum was to relieve pain, and this could be best accomplished with a nipple shield. The variety of shields was great; one should be selected which could be used with comfort to the patient.

Dr. GREEN exhibited a case of obstetrical instruments and spoke of

#### THE NECESSARY ARMAMENTARIUM FOR OBSTETRIC PRACTICE.

In cities and large towns, where the proximity of the patient to the physician's home is such that any needed instrument can be sent for with only short delay, and where it is possible to promptly obtain from one of the many drug stores any desired medicine, the outfit which a physician need carry to a case of labor may be extremely simple; he needs only to be prepared to deal with the emergencies of obstetric practice without undue loss of time. In consultation practice, however, and in the country, where the obstetrician may be called to a distant patient, to deal with he knows not what complication of labor, he should go provided with an armamentarium sufficiently comprehensive to enable him to meet every possible demand upon his skill. It will be found convenient, therefore, for the accoucheur to have two obstetric bags: a small gripsack containing the comparatively few instruments and drugs which may be necessary in ordinary cases, and a larger bag, containing a complete set of instruments and appurtenances, which may be sent for when needed, or carried to cases at a distance and in consultation practice. The contents of the larger operative bag should be as follows:

1. ANTISEPTICS: nail-brush; corrosive sublimate tablets for the convenient preparation of solutions of any desired strength for disinfecting the hands and the patient's genitals, for vaginal or uterine irrigation, and for cleansing wounds or lacerations before suturing them; carbolic acid crystals, with which to make a 1:20 solution for disinfecting instruments; a small jar of oil of eucalyptus and vaseline, 1 to 8, to use as an antiseptic emollient for hands and instruments.

2. CATHETERS: a long, silver, female catheter, for emptying the bladder; a long, English gum-elastic catheter with stylet for a variety of uses, namely:—to empty the bladder, when the fetal head is low and pressing on the urethra, or when for any reason a more pliant or longer catheter is needed; to rupture the membranes high up in hydramnios or other conditions; to catheterize the uterus for the purpose of exciting contractions; to inflate the fetal lungs; to replace the prolapsed funis, after the manner described by Prof. Richardson<sup>2</sup> at a former meeting of this society.

3. SYRINGES: a Davidson syringe with rectal and vaginal nozzles, the latter to be of hard rubber, also the long, block-tin, intra-uterine tube, which can be bent to conform to the pelvic curve; it is also well to have the hard rubber spray attachment for irrigating the external genitals. A two-ounce, hard rubber syringe, although not essential, is of great utility in the administration of certain rectal enemata, which soil, and in some cases injure, the soft rubber syringe. A hypodermic syringe; in the same case may be included soluble tablets of morphine, pilocarpine, atropia, and ergotone.

<sup>2</sup> Boston Med. and Surg. Journal, Vol. cxiv, No. 11, p. 224.

4. CERVICAL DILATORS AND TAMPONS: although in most instances the fingers are the best dilators, cases do occur in which Barnes' bags are very serviceable; they should therefore be included, together with the inflating bulb. Braun's colpeurynter is also sometimes of value, both for exciting pains and consequent dilation by mechanical distention of the vagina, and for temporary use in some cases of hemorrhage.

5. MEDICINAL AGENTS: sulphuric ether, chloral hydrate, laudanum, ergot, brandy for hypodermic use, and Monsel's solution.

6. FORCEPS. While the ordinary Simpson's or Braun's forceps, which should be carried to every case of labor, is sufficient in most instances to accomplish delivery, the operative bag should contain some variety of the longer and more powerful instruments: the axis-traction forceps of Simpson, which can be used also without the axis-traction rods, serves very well in high operations, and is much less cumbersome than the long, French forceps, or the axis-traction forceps of Tarnier. The short, straight, Dublin forceps (Beatty) is sometimes of great value in occipito-posterior and mento-posterior positions, since, owing to the absence of the pelvic curve, the instrument may be allowed to rotate within the vagina, without danger of injury to the maternal soft parts.

7. EMBRYOTOMY INSTRUMENTS: For decapitation: Braun's hook and Ramsbotham, Jr.'s knife, the combined use of which possesses some advantage over the single use of either. For craniotomy: Simpson's modification of Smellie's perforating scissors or Braun's trephine with pelvic curve [while either will generally suffice, it is advantageous to have both instruments]; Braun's cranioclast and Meigs's bone forceps. The cephalotribe and crochet may well be omitted.

8. IN GENERAL: a blunt hook for instrumental extraction of the breech; a pelvimeter; a straight, blunt bistoury for incising the cervix or perineum in the rare instances in which these procedures are necessary; a sharp, straight bistoury suitable for opening the abdomen and uterus or for opening a vein; a good needle-holder, with a variety of needles, in a suitable book, for closing the uterus and abdomen after Cesarean section or for repairing the vagina and perineum; two artery or tissue forceps with sliding catch; a dressing forceps, which is also useful in pulling forward the tongue during etherization, and a box-wood gag; a stout pair of long, curved scissors, which may serve to cut the funis, to trim the tissues in repairing the perineum or to remove the uterus in a Porro operation; silk, silver wire and catgut for sutures; Harrington's salt infusion apparatus, with a few powders, and a suitable filter (absorbent cotton will answer).

9. MINOR ACCESSORIES: long, curved, uterine dressing forceps; a pair of placental forceps, for the rare instances when the fingers will not suffice; a roll of half-inch tape, for use as a fillet in extracting the breech, or a sling in podalic version; some bobbin for tying the funis; collodion; safety pins.

10. THE BAG ITSELF: with the help of an inside, hinged flap, and a pocket to hold bottles and other small articles, this armamentarium may be contained in a bag twenty inches long, twelve inches high, and six inches thick; by the aid of loops or of wooden blocks and buttons, the instruments can be kept each in its proper place and not rub or abrade their neighbors. The whole interior should be lined with chamois skin,

and thereby the instruments may be kept bright and clean, if they are nickel-plated. There is also sufficient space in such a bag for several toilet articles, should the distance of the patient detain the physician over night and render such accessories desirable.

With a complete instrumentarium within sending distance the accoucheur may go to his cases in light marching order. His skirmishing gripsack need contain only the few necessary drugs, short forceps, catheter, perineal instruments, syringes, and scissors, and the ever-necessary means for surgical cleanliness.

## BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

PHILIP COOMBS KNAPP, M.D., SECRETARY.

JANUARY 20, 1887, DR. GEORGE T. TUTTLE in the chair.

DR. J. B. AYER read a paper on

### THE TREATMENT OF CHRONIC URÆMIA.<sup>1</sup>

DR. FISHER said that he had been interested in the subject of uræmia for twenty-five years. In his early practice, he had had a patient who died with an anomalous form of delirium, and the urine found in the bladder after death was albuminous. At that time he considered the delirium uræmic. In a medico-legal case not long after, where there was a question of testamentary capacity, he testified that Bright's disease could cause mental impairment, although experts on the other side denied it. He had seen such impairment due to uræmia in his own practice, and it is now acknowledged to cause both acute and chronic mental symptoms. He spoke of a case of transient hemiplegia, followed by violent insanity, where there was albuminuria, but this latter symptom was not discovered until after recovery from the hemiplegia and the insanity.

DR. GOLDSMITH said that, at first, he had thought that renal disease was comparatively common among the insane, but he had found that the amount of albuminuria was astonishingly small. Very little renal disease was found at the autopsies, and there were very few cases where renal disease caused insanity. He had seen uræmic delirium, but he had never seen a case of insanity where the patient was in good condition except for the renal disease, which seemed due to disease of the kidney. Evidence of renal disease was not evidence of mental affection. Morphine had not been permitted in Bright's disease until recently, and even now it was allowed only by a few. He had seen a case of insanity with great excitement, where there was albuminuria. Two half-grain doses were given within thirteen hours, with better results than usual, and the patient recovered from the insanity. Liquid food seemed to him to be of advantage; a case with gastric dyspepsia took skim-milk well. All milk was constipating, but he did not know whether skim-milk differed from ordinary milk.

DR. FISHER said that, in his experience, Bright's disease was a not uncommon lesion at autopsies of insane patients, and a few cases of insanity were due to it, although not many.

DR. GOLDSMITH thought it not unlikely, *à priori*.

DR. FISHER said that, in uræmia, we probably have starvation and anæmia of the brain, which may well cause mental trouble.

DR. GOLDSMITH said that although a comparatively

<sup>1</sup> See page 374 of this number of the Journal.

large number of sane people had renal disease, that of insane people who had it was relatively small.

Dr. FISHER said that there seemed to be some relation between the two states analogous to that between insanity and cardiac disease.

Dr. BOLAND said that the evident heredity in the reader's case was curious. The son of the patient, with transient hemiplegia, mentioned by Dr. Fisher, died of Bright's disease. Milk was pretty rich in nitrogen, but whey eliminated most of the caseine, and ought, theoretically, to be a good food. Peptonized milk worked well. He mentioned a case of Bright's, apparently moribund, where there was nausea, scanty urine, and severe frontal headache. The headache was so severe that a quarter-of-a-grain of morphine was given; and, when the pain returned with greater severity, and the patient became delirious, half-a-grain more. The patient slept heavily for some hours; the pupils were contracted, but the patient improved, and is now at work, apparently well. Quantitative examinations of the sweat have shown that pilocarpine eliminates very little urea, perhaps not enough to counterbalance its dangers.

Dr. TURNBULL said that the use of morphine in Bright's disease, and the connection between Bright's disease and insanity, were important, as morphine is often used in insanity. In a case where Bright's disease had not been suspected, he had known a quarter-of-a-grain of morphine to produce disastrous results.

Dr. KNAPP had known of one case, where an unintentionally large dose of morphine was given for some time to a patient with amyloid kidney, in which the morphine might have hastened the result. Ordinarily, however, he had given morphine in renal disease in the same way that he would in other cases, and with no ill effects. One case of disease of the heart, liver, and kidneys, with great ascites and general edema, took a quarter to a half-a-grain of morphine by the mouth every night for weeks, with benefit.

Dr. TUTTLE said that the connection between Bright's disease and insanity was interesting. He had seen several insane patients, lately, who had albuminuria and casts, and the mental symptoms and the urine improved together, so that he thought there might be some connection between the two. He mentioned an obscure case, where a nurse, who had previously had pelvic cellulitis, took cold while menstruating. She had severe abdominal pain, vomiting, coma, and jaundice. There was no albuminuria or change in the size of the liver. Three doses of elaterium caused her to regain consciousness, and she recovered.

#### THE NEW YORK ACADEMY OF MEDICINE. SECTION ON PRACTICE OF MEDICINE.

STATED meeting, March 15, 1887.

Dr. C. E. BILLINGTON read a paper on

##### LOCAL TREATMENT IN DIPHTHERIA.

Both constitutional and local treatment, he said, were of vital importance in diphtheria. The first factor to be considered in this disease was the entrance into the system of a specific poison or contagium, which, in many cases, at least, seemed to act by direct local implantation upon some portion of the air-passages, and this naturally suggested the local use of an-

tiseptics. The second factor in diphtheria was inflammation. This, if preëxisting from other causes, was very apt to invite the disease. Inflammation was an essential constituent in diphtheria, and ceased only with the cessation of the disease itself. The therapeutic indications furnished by the inflammation were: (1) The treatment of catarrhal trouble. (2) The employment of the most active anti-phlogistic measures, local and general, in the hope of cutting short or modifying the course of the disease. There was also an important contraindication, namely, the avoidance of all local applications, which have the effect of causing irritation of the parts.

The third factor in diphtheria was a membranous exudation. This, he thought, was probably an invariable element, though it varied very greatly in extent and in its characteristics in different cases. Besides acting as a local obstruction, the membranes had the effect of covering up the diphtheritic poison, thus preventing whatever antiseptic measures which might be resorted to from accomplishing their purpose effectively, and permitting septic infection to go on. The presence of membranes, however, were sometimes the lesser of two evils, the greater being their premature removal whether intentional or accidental. When this occurred, the general inflammatory action and the membranous exudation were both apt to become more marked than before. Indeed, the forcible separation of the membrane might be attended with very considerable danger. The destruction of the membrane by powerful caustics or the actual cautery had been repeatedly resorted to, in the hope of substituting a simple ulcer for the diphtheritic deposit; and undoubtedly this was the true indication present in cutaneous diphtheria. But this plan was difficult or impracticable as regards the mucous membrane, and the use of such agents had now been discarded by the great majority of the profession. In severe cases of diphtheria, the sudden removal of the exudation would leave exposed a raw and irritated surface, and the sequel would almost inevitably be an increased absorption of the diphtheritic poison. The rational indications in regard to the membrane were: (1) To effect its gradual softening and thinning by the local use of non-irritating solvents; and (2) in exceptional cases, in which their prompt removal was necessary, to accomplish this by such means as would cause the least irritation possible. The true object in treating diphtheria, Dr. Billington remarked, was not so much to cure the disease as to bring the patient through it alive.

The fourth factor in the disease was the absorption of the poison, with its attendant evils. In the earlier stages of diphtheria, the condition of the throat was not distinguishable from that met with in ordinary angina. The absorption of the poison began with the exudation, and it seemed probable to him that the disease was, at first, a local one. He here referred to the series of cases reported by him in the papers which he read before the Academy in 1876 and 1880, in which the plan of local antiseptic treatment was systematically and carefully carried out. The result was that in a large number there was little or no evidence of constitutional disturbance, while the number of deaths from toxæmia was extremely small. As indicated by his experience, nature was capable of tolerating and successfully eliminating a certain amount of the poison absorbed.

The fifth factor was the emanation of poison from those affected with the disease.

The indications of local treatment were, three: (1) To subdue inflammation. (2) To effect a gradual and superficial thinning and softening of the membranes. (3) By antiseptic measures, to minimize septic absorption.

Passing on to speak of the means by which these ends were to be accomplished, Dr. Billington said that, in the first place, the frequent swallowing of water, milk, or other bland fluid had a good effect in washing the parts clean. Ice and iced beverages also had a beneficial effect upon the inflammation present. Of medicinal agents, tincture of chloride of iron and chlorate of potassium had long been regarded by many as holding the first place. When employed with glycerine, in the proportion of one to eight, the tincture of iron was very grateful to the taste, and could be given every hour, with a little water. The chlorate of potassium might be employed in the following formula:

R Potass. chlorat. gr. xii  
Glycerinæ f 5 ss  
Liquor: calcis, f 3 i ss

M Dose, a teaspoonful.

In certain cases the tincture of iron was found too irritating, and there were other agents which could be employed in its place, such as the benzoate of sodium.

Gargles were condemned by him, and the use of the syringe was regarded as more generally applicable. Any ordinary syringe holding half an ounce or an ounce would answer, and warm water holding common salt in solution was, perhaps, as good as anything else to employ with it. Still, the use of the syringe had its limitations and dangers. Great care should always be observed in such manipulations, and this method should never be practiced when any of the membranes were partially dislodged. In nasal diphtheria, the syringe had been so long in use, he said, that it was unnecessary to speak of its advantages; but here, also, it was essential to use the greatest caution. The fluid should be thrown in with sufficient force, and the injection kept up long enough, to thoroughly cleanse the passages. He thought that the physician should always use the syringe himself, and that two or three times a day was often enough for the injections. The frequency should never exceed the tolerance of the patient. Spraying, while possessing the advantages of being a gentle and unirritating method, was not of as much service in nasal diphtheria, in his opinion, as syringing.

As regards solvents for the membrane, lime-water was of no service if it was required to secure a very rapid effect; but, in general, it was of positive therapeutic value by its gradual action. A useful formula consisted of ten minims of carbolic acid to four ounces of lime-water, which might be employed every half-hour. Lactic acid, pepsin, and other similar agents had often been recommended, but their practical value as solvents had not as yet been satisfactorily demonstrated. Trypsin and papayotin, however, had been used with good results. Inhalations of vapor were often resorted to as adjuvants. As an escharotic, nitrate of silver was to be recommended, on account of its superficial action. Tincture of chloride of iron, in the proportion of two to one, and Monsell's solution, were also of service in certain cases.

Dr. A. JACONI said that nasal diphtheria was very apt to prove fatal unless local treatment was resorted

to at an early period. The treatment which he practiced consisted of repeated injections, kept up at short intervals, both day and night, and he did not think that two or three times a day was often enough to use the syringe. Lime-water, carbolic acid, and bichloride of mercury (the latter in the proportion of 1 to 10-000), were useful for this purpose. Spraying could often be alternated with the injections with advantage. It had formerly been supposed that, in order to have any effect upon bacteria, it was necessary to use very powerful agents; but later investigations had shown that this was not really the case, Koch and others having demonstrated that a solution of carbolic acid of the strength of only 1 to 1,200, while it would not destroy bacteria, was sufficient to check their activity. It was his invariable practice to have the sick room constantly filled with the vapor of either turpentine or carbolic acid, or both.

Dr. J. LEWIS SMITH said that at the present time the greater part of the profession coincided in the opinion expressed by Dr. Billington, that diphtheria is primarily a local disease; but he could not believe that this was really the fact, at least in all cases. He had met with a number of instances in which the disease had a period of incubation lasting as long as six or eight days; which certainly indicated that it was from the first a constitutional affection. At the same time he was thoroughly in accord with Dr. Billington as to the great importance of local treatment, and also agreed with him that all irritating substances should be carefully avoided in the applications made. Muriate of pilocarpine had been very highly recommended by some, and even lauded as a specific, but he regarded this agent as exceedingly dangerous, and related a case in which fatal pulmonary oedema was apparently induced by it. The nasal passages were in his experience not infrequently the seat of the primary exudation in diphtheria; but he had found that it was quite a common occurrence for the diagnosis of nasal diphtheria not to be made out until the membranes had become very extensive, while the patient was apt to die if local treatment was not resorted to at a comparatively early period. As to the medication to be applied through the nostrils, common salt, which had been recommended by Dr. Billington was, he thought, hardly antiseptic enough, and he preferred to use salicylic or boric acid. The following was a very good formula:

R Acid boracæ.	.	.	.	.	.	.	.	.	.	℥ss
Sodii borat.	.	.	.	.	.	.	.	.	.	℥ss
Sodii chlorid.	.	.	.	.	.	.	.	.	.	℥ss
Aque	.	.	.	.	.	.	.	.	.	℥ss

M

In his practice he was in the habit of making applications to the nasal passages by means of an ordinary medicine-dropper.

He thought highly of alkaline inhalations; but the amount of lime in lime-water, which was still used to a large extent, was very small. Its alkalinity and solvent action could be materially increased, however, by adding a drachm of bicarbonate of soda to each pint of lime-water. Trypsin seemed to be of considerable benefit, and it could be used in connection with the ordinary alkaline solutions. It was the duty of every physician attending a case of diphtheria in young children, Dr. Smith thought, to note at each visit whether the child was becoming hoarse at all; hoarseness being the first indication of the invasion of the larynx and trachea of the membranous exudations.

Dr. F. H. BOSWORTH said that one point of great

importance had not been referred to, namely, the fact that glandular tumors of the pharynx, offered one of the most favorable niduses possible for the lodgment of the diphtheritic poison; while if the nasal passages and fauces were entirely clear of all obstructions the individual was much more likely to escape the disease.

Dr. Billington's paper only afforded additional proof of the fact that there are no specifics for diphtheria. It was, therefore, to the faithful carrying out of the two or three indications to which he had referred that we were to look for success in the treatment of this disease. In regard to nasal injections, he thought that placing the use of the syringe in the hands of even a trained nurse involved considerable danger, and he greatly preferred to employ the spray. Delano's atomizer (which Dr. Billington had recommended in this paper), was a good instrument as long as it would work, but the trouble with it was that it was constantly getting out of order. Hence it was better to use one constructed on a different principle, and the "Magic" atomizer, which could now be obtained at any druggist's for one dollar, was as efficient as any for the throat. For the nose, Millard's atomizer, No. 5, costing \$1.25, was probably the best form of apparatus. It had a large nozzle, and by means of it fluid could be made to pass into one nostril and out of the other. Of all cumbrous and useless applications ever put into the hands of the medical profession, he thought the galvano-cautery the worst. The effect produced with it was simply that of heated platinum wire, without any electrical action whatever, and precisely the same results could be obtained by other agents which were infinitely more convenient to handle.

DR. D. BRYSON DELAVAN spoke particularly of the value of bichloride of mercury in the treatment, and expressed regret that it had not received the attention in the present discussion to which its merits entitled it. This agent had been conclusively shown to have much greater germicide power than carbolic acid, and therefore he thought it ought to be preferred to the latter. In his own hands it proved more efficient than any other remedy. While in nasal diphtheria the efficiency of the antiseptic spray was unquestionable, he thought it was a good plan to spray the nasal passages even in the pharyngeal form of the disease, as it assisted in freeing the fauces of obstructions, and also enabled the patient to breathe through the nose. He greatly preferred the spray to the use of the syringe.

The chairman, DR. E. DARWIN HUDSON, JR., stated DR. J. T. HUTTON, of Minnesota, having reported unusually good results with the topical use of lunar caustic, Dr. Billington had written for some further particulars of his method of treatment, when Dr. Hutton replied that he would be present in person and express his views when the paper was read; and it now gave him great pleasure to introduce that gentleman to the Academy.

DR. HUTTON said that while the disease was local in the pharynx he believed that he could arrest it in every instance. His statistics showed a mortality of only twelve in two hundred and nine cases, and that notwithstanding the fact in several of them he did not give continuous treatment. His experience was confined entirely to Minnesota; although he presumed the disease was essentially the same in its general characteristics everywhere. He had gone to Minnesota to practice nine years ago, but did not meet with

any diphtheria until seven years ago. In the neighborhood where he resided five families had lost twenty children, and thirteen families thirty-six children from the disease, before he moved there. The first time that he was called upon to treat diphtheria his experience was very unfortunate. When he arrived at the house, which was twenty miles from his own home, he found that three children had already died of the disease, and three others were very low with it. He was sorry to say that two of the latter also succumbed afterwards. In the next family that he visited he first made use of the plan of treatment to which he has ever since rigidly adhered. In this household no less than five children were dead from diphtheria, and three others were very low with it. All three of the latter, however, recovered under the treatment which he then instituted, and which he believed to be infallible for the first stage of diphtheria in the region of country in which he lived, however it might be elsewhere. He did not make use of it in the stage of stenosis.

The two great indications in diphtheria, he believed, were, first, to destroy the false membranes, the disease being, in his opinion, entirely local at first, and, second, to support the patient, as the disease was usually attended with marked depression of the vital powers. For destroying the membranes he employed a solution of nitrate of silver, of the strength of twenty to fifty grains to the ounce, applied by means of a camel's hair pencil, and the application (which he said was no more painful than that of syrup or water) repeated until all the membrane was completely destroyed. He had known violent cases sometimes to be controlled by a single application. Chlorate of potash was also directed to be used as a gargle, or swallowed. In carrying out the second indication an abundant supply of fresh air was a necessity, and if it could not be obtained in any other way, the patient should be taken out of doors, unless the weather was intensely cold. As the heart was liable to fail, it was desirable to have the patient as quiet as possible, with the body kept in the recumbent position and sufficiently warm. Milk, eggs, beef-extract, and alcoholic stimulus were to be given freely, and he generally employed quinine in one-grain doses about every hour. With this plan of treatment most of the cases were gotten under control within twenty-four hours, and there was no subsequent paralysis, or other disagreeable sequela. In nasal diphtheria he used a five per cent. solution of carbolic acid by means of the syringe.

DR. JOSEPH E. WINTERS said that local treatment was impracticable in cases of diphtheria limited to the throat in young children, though this was not the case when the disease affected the nose. If diphtheria were primarily local, the first object in the treatment ought to be to destroy the membranes by means of strong caustics; yet all who had taken part in the present discussion, with the exception of Dr. Hutton, had condemned their use. All, however, agreed that local treatment should be directed against the membranes; but for his part he could not see why so much stress was laid upon the membranes, as long as they were confined to the fauces. If they were removed forcibly, or by means of caustics, they would only re-form. The one thing that promotes secretion more than anything else, is heat, and it should be constantly applied, both internally and externally. Hot applications should be made early, and should be kept

up continuously. The primary indication in diphtheria, he thought, was to prevent the extension of the membrane into the larynx, and this was also accomplished by the persevering use of heat. The patient was to be kept absolutely still, and no change from the recumbent posture allowed for any purpose whatever. If heat were properly applied externally and internally he did not think it worth while to fatigue the patient with the frequent or continued use of the spray. The croup-kettle giving off the vapor of turpentine he had found very useful, and he was also in the habit of employing the remedies mentioned by Dr. Billington. In nasal diphtheria local treatment could be satisfactorily carried out if sufficient tact were used. In the treatment of swollen glands in connection with nasal diphtheria, Dr. Winters said that he could not subscribe to the use of ice, as recommended in the paper, as he believed it to be injurious by promoting the spread of the inflammation.

DR. H. D. CHAPIN said that he greatly preferred the spray to the syringe for local treatment in the throat, and spoke particularly of the liability of the use of the syringe to excite vomiting.

DR. BEVERLY ROBINSON said that he should be very much opposed to any form of douche which caused vomiting; and that he also was decidedly in favor of the spray. He did not believe, however, that the ordinary spray-producer was of any use practically. The only atomizer which he employed was that of Dr. Lefferts, and he thought that spraying with an efficient apparatus was the only thorough way of washing out the nasal cavity. The plan referred to by Dr. Smith, of using a medicine-dropper, was simply a delusion and a snare. As to Dr. Hutton's method of treating diphtheria, it was pretty nearly as old as the history of the disease itself, and the use of lunar caustic, which had formerly been employed by a large number of physicians, had long been abandoned. Cubebs, he thought, was more useful in its action upon the throat than the chlorate of potash. He had at one time supposed that it had some specific effect, but he now believed that it was simply a very efficient agent in combating the catarrhal element of diphtheria. In his opinion there was no one remedy which would cure a very toxic case of diphtheria invariably, and death would occasionally result, whatever means might be employed against the disease.

DR. ANDREW H. SMITH said that while he agreed in the main with the practice of those who had spoken in the discussion, he did not agree with the majority of those in the matter of theory. As to the nature of diphtheria, he was glad to hear it stated that the membranes do not constitute the disease, and personally he believed it was as much a constitutional affection as scarlatina, for instance, and that the membranes were not even an essential element. We were told that the membranes were precisely the same as those met with in ordinary membranous croup, and also in those cases in which patients from time to time brought up complete casts of the trachea and ramifications of the bronchi. But if this were so, the latter class of patients must be affected with chronic diphtheria; which he could not possibly believe to be the case. The membranes, therefore, were not so important as had been represented; but still there was apt to be a necrotic process going on underneath them, and the absorption of septic material rendered it necessary to resort to local treatment. Local treatment was more important in

the nose than in the throat, and as the hard-rubber syringe was apt to cause suffering and do injury, he had been in the habit of using a soft-rubber nipple, which was attached to an ordinary hand-bulb. When this was applied in one nostril, the fluid could be made to flow out from the other. It was important that the fluid employed should be of the same density as the serum of the blood, and the preparation which he preferred was a weak solution of bichloride of mercury (1 to 4,000 or 6,000) with a drachm of salt to the pint of fluid, in order to give it the required density.

DR. WM. H. THOMSON said that what he had heard this evening had shown him that there was nothing new to be learned at present concerning the treatment of diphtheria. Twenty-five years' experience had also convinced him of the advantages of local treatment. He then related a case indicating that the disease was primarily of constitutional character.

A young man whose bed-fellow was taken with diphtheria was separated from his companion and carefully watched. On the ninth day afterward he had a very severe chill, and within ten minutes afterward his physician examined his throat and nostrils, but found nothing but a little diffused redness. In an hour, however, there was extreme congestion of the fauces, with grave constitutional symptoms; but it was not until the next day that any membranes made their appearance. On the sixth day afterward all the membrane disappeared, and the temperature was found to be normal. On the evening of the seventh day, however, he had another chill. The urine was now found to be loaded with albumen, and in two days he died from cardiac paralysis. This was a case, he thought, which clearly demonstrated that diphtheria is a purely constitutional disease. His own treatment, therefore, was based on internal support, and the question which he put to himself was, What antiseptics can be given in the largest quantity? The answer, he had found, was, Those of the chlorine group. Bromine was a useful remedy locally, and there was one agent which had not been referred to to-night which was an admirable antiseptic, particularly when any necrotic process was going off. This was the persistent use of oxygen gas.

DR. ALFRED L. LOOMIS remarked that it seemed to him that Dr. Billington had arrived at the conclusion which every sensible practitioner would come to who carefully watched his cases. While in a certain proportion of cases diphtheria might be primarily a local disease, he believed that in the great majority of instances it was primarily constitutional. In former years he had seen a great deal of it, and he had travelled over pretty much all the ground that was known as regards local treatment. He had employed, first, mechanical agents, second, escharotics, and third, astrin-gents, including the nitrate of silver. The conclusion that he had at last arrived at was, that nothing but cleanliness, with local antiseptics and constitutional support, was required. There were no specifics in this disease, and it was always best to treat the case, and not the diphtheria.

— A State Board of Health has just been established in Vermont, the twenty-ninth State in the Union to be provided with such an organization.

— Dr. H. C. Wood, of Philadelphia, has been offered the chair of medicine at the Johns Hopkins University.

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THE RAG QUESTION AND PUBLIC HEALTH.

In the recent cases of small-pox among rag-workers at Huntington, Mass., to which we referred last week, neither of the victims had ever been vaccinated. One, a girl of thirteen or fourteen years old, goes often to the rag-room where her grandmother works, and even at times helps her. The old woman has a typical vaccinal scar and does not contract the disease, but the child, unprotected by any vaccination, takes the small-pox. This child had been in attendance at the public schools, contrary to the law, and yet no objection had been made to her attendance by the town authorities.

Coincidentally with these revelations of culpable negligence on the part of mill proprietors and town authorities, whereby a whole community was endangered through the infection supposed to have been brought by rags, we have a bill passed to a second reading in the lower house of the State Legislature, relaxing the precautions now by law required in such matters, and providing that an unvaccinated pupil may be allowed to attend public schools on the certificate of two reputable physicians that "it is not advisable to vaccinate such child and that no injury to the public health is likely to occur from the admission of such child to the public schools." If a child's health is not good enough to admit of his vaccination, is it good enough to warrant sending him to school unvaccinated, and can it be true, whether certified to by "reputable physicians" or not, that school attendance of unvaccinated children, exposed as they are in manufacturing towns to multiple sources of contagion, is likely to cause "no injury to the public health?"

The report to the Boston Board of Health by Dr. J. H. McCollom, City Physician, as to the recent cases in the mill of the Parsons Paper Co., at Holyoke, — which was incorrectly outlined in two of the daily papers before it was rendered, but has not been forced into publicity since — agrees substantially with the facts heretofore laid before our readers. Of the two kinds of foreign rags used in this mill, those from Germany bore the certificate of the United States in-

spector that they had undergone (sulphur) disinfection. The other kind consisted of Russian rags, sorted and packed at Königsberg, whither they were brought ungraded, and where they lay in store for months before being baled. They were sorted into nine or ten different grades and the importers averred that no case of small-pox had occurred among their workmen for years, or "was known to exist" (*sic*) in Königsberg.

The special committee of the American Public Health Association to which were referred the resolutions of the Philadelphia Board of Health regarding the importation of infected rags, reported a resolution at the meeting in December, 1885, which after considerable discussion was referred back to the same committee with enlarged numbers for further consideration. At the meeting in 1886, the committee made a report which has just been published by the association. In this report the various infectious diseases are grouped together without any special order, and with no attempt at distinction from one another, but the actual cases of reported infection are seen to be nearly all small-pox.

In this report Dr. George M. Sternberg, the well-known bacteriologist, was extensively quoted as in favor of the compulsory disinfection of *all* rags, he having said in a letter, under date of March, 1885, "my studies relating to disease-germs leave no doubt in my mind as to the possibility of the importation of the germs of cholera, malignant pustule, small-pox and yellow fever in old rags whether baled or otherwise." Another letter from the same gentleman, however, written December 22, 1886, with reference to this report of this committee and by vote published as an addendum thereto, says: "I am not by any means as positive with reference to the necessity for disinfecting all rags as I was two years ago." He goes on to say that he has had a recent opportunity to study the methods of rag collection and shipment abroad, and that he finds that the cost of land transportation is an effectual bar to removal of rags to be shipped from a port other than one near which they were gathered. The remainder of the letter, which is rather a long one, reviews the general subject, and he concludes that during an epidemic of cholera he would exclude all rags from infected ports, and disinfect by steam, before export, rags shipped from healthy ports; but that in the absence of prevailing epidemics he would not treat rags differently from other merchandise.

The forthcoming report of the State Board of Health of Massachusetts contains an inquiry into the transmission of infectious diseases through the medium of rags, by Dr. Charles F. Withington. The paper which, as we observe from advance sheets, will occupy some seventy pages of the report, after giving a description of the gathering and treatment of foreign and domestic rags from a commercial and industrial point of view, and a historical sketch of the sanitary regulations in the United States and various European countries on the trade in rags, during times of epidemic disease, proceeds to a consideration of the recorded

evidence of infection through rags, for various diseases, giving enough of the literature to establish the fact that such infection has at times occurred. The conveyance of small-pox through this channel is abundantly shown. As to cholera the author finds *no case* in which the disease was shown to have been transmitted by foreign baled rags. The three instances cited in the Report of the Cholera Epidemic of 1873, published by order of Congress, which have been claimed by the advocates of universal disinfection, as proof of transmission of the disease by rags, were caused, if through fomites at all, by *clothing* of immigrants, and there is reasonable doubt in at least one of the cases if the disease was not contracted by direct infection through persons. Other cases are given where clothing was apparently the channel of infection, notably those on the ships *Swanton* and *New York* in 1848, on both of which immigrants opened their boxes of clothing while at sea, and were at once attacked with cholera. So, too, Dr. Rayseh's cases reported to the Hague conference, resolve themselves into six in which the source of infection is definitely stated to be clothing, and three in which the only evidence against rags is that rag-pickers were the first persons in the community to be affected.

Only one case remains, and that is the somewhat noted one, at Kriegstetten, Switzerland, where the infection was ascribed to rags, brought only sixty miles out from Zurich, and of course not subjected to any of the processes which afford protection against foreign baled rags.

Four instances, all occurring in Germany and Austria-Hungary, are given of epidemics of "rag-sorter's disease" which we understand to be simply anthrax, of which rags afford a far less serious danger than the hides and wool which commonly transmit that disease in this country.

The original observations recorded in this paper bear out in general the above facts. The source of rags causing small-pox is always difficult to determine with certainty, for the reason that in most paper-mills both foreign and domestic rags are used, all are dusted in the same machines, and the sorters work alternately on them, or at least are protected from exposure to neither class.

Of the physicians who answered the inquiries made on this point, five expressed uncertainty; three said probably foreign; five foreign; and eight domestic. It is probable that the grounds upon which these replies were made were all more or less conjectural rather than demonstrable. But it seems to us that what is known of the tenacity of life of the variolous poison makes the attempt to differentiate between the culpability of foreign and domestic rags, in this one point, rather nugatory. There being confessedly in the aggregate quite a number of cases of small-pox infection through rags, it is probable, even though in the nature of the case the exact proportion cannot be traced, that some of the offending rags are domestic and a smaller proportion are foreign, less of the latter

being in use than of the former. This is not by any means to admit the same thing regarding cholera, whose transmission by rags appears to have occurred, if at all, in but one case — and that not from baled rags. The infectious principle of cholera is of such a character that it is likely to be killed by just the processes involved in the sorting and baling of foreign rags, namely, much handling, drying, etc., and especially length of time.

The inquiry of Dr. Withington revealed no instances of transference of other affections, nor of greater ill-health among rag-sorters than in other mill operatives. A series of charts are given showing the mortality for a series of years, from various infectious diseases, scarlet fever, diphtheria, measles and typhoid fever, for a group of paper manufacturing towns compared with the State at large, and for a smaller group of exclusively paper towns compared with an equal number of similarly situated towns devoted to other branches of manufacture. The curves show no preponderance of disease in either class of towns except in the case of small-pox and possibly in that of typhoid fever.

Investigations as to the requirement of vaccination showed in some cases a lamentable slackness, in this regard, among mill owners, though it should be said that the greatest laxity was found in mills outside of Massachusetts. Inquiries as to the usage of hospitals in their disposition of soiled and infected rags showed in the main a satisfactory state of things, though one or two hospitals, instead of burning such rags, merely throw them into ash barrels, where they are probably for the most part rescued by rag-pickers and so find their way to paper-mills.

In a word, the great danger to public health from rags is small-pox. The best preventive we know against this danger is vaccination, not disinfection of rags. With vaccination, other means of protection are more or less superfluous; without it they are inadequate.

#### THE ADMINISTRATION OF QUININE IN INTERMITTENT FEVER. ARE THE PHYSIOLOGICAL ACTION, AND THE THERAPEUTIC ACTION COINCIDENT?

ALL physicians are agreed as to the utility of quinine in intermittent fevers, and whatever scepticism may exist with regard to the usefulness of medicines in general, no one doubts that the alkaloids of cinchona are efficacious in malarial diseases. Nor is there much difference of opinion as to the doses required.

There is not the same unanimity as to the period when sulphate of quinine should be given in order that the utmost benefit may be derived from it. Junior practitioners are apt to experience some bewilderment on finding that for a long time three great methods of administering bark (or quinine) have prevailed; all differing somewhat in details. There is, first, the method of Torti, called the Roman method, then that of Sydenham, called the English method, and finally

that of Bretonneau, called the French method. Torti gave his cinchona bark (quinine was then unknown) immediately before the ague fit. He prescribed two or three drachms of the powder in one dose, then he let the patient rest two days, then gave for two days in succession one drachm, and after an interval of a week, half a drachm every day for a week. Sydenham administered one large dose (3iii.) of bark (which he called "febrifuge powder") after the paroxysm, and repeated the same dose every four hours, till the time of the next chill, then let the patient rest a week when he recommenced the treatment. Bretonneau and Trousseau, who lived after the discovery of quinine, began the treatment with one large dose of sulphate of quinine, which they gave immediately after the attack; this is also Briquet's method, who urged that at least fifteen hours should elapse between the giving of the dose and the ague fit which he wished to prevent.<sup>1</sup>

Dujardin-Beaumetz, in commenting on the views of these French authorities, thinks that the space of time which separates the administration of the massive doses from the onset of the chill is too long, the physiological effect will have worn off; and he recommends to give the quinine, not immediately after the ague fit, but three or four hours before. When the fever is tertian (which is the most frequent type) he would give the quinine every other day, in one dose of half a gramme to a gramme — enough in fact should be administered to prevent the expected attack. This was also substantially the method of Gubler, who gave his quinine five or six hours before the time for the chill, as it takes about that time for the physiological action of the alkaloid to attain its maximum. Sometimes he would begin the treatment the night before the looked-for return of the chill (the patient being allowed exemption from medicine on apyretic days); at bedtime he would give the patient twenty-five centigrammes in one dose, and followed it by another equal dose in an hour; the next morning another twenty-five centigramme dose would be administered, and with this entire quantity of seventy-five centigrammes, thus given in anticipation of an attack, he was generally successful in throttling the malady.

Torti, Sydenham, Bretonneau, Trousseau, and Briquet, agree in this, that the massive doses of quinine should be given a long time (at least fifteen hours) before the ague fit which they desire to prevent. Gubler and Dujardin-Beaumetz, believing that the physiological and therapeutical effects are the same, lasting at the most not more than six hours,<sup>2</sup> do not rely on one large dose administered fifteen hours or so before the chill, but prescribe several repeated doses, of a fraction of a gramme, began near the time of the anticipated fibrile crisis.

We may remark, in concluding, that American practitioners have generally adopted the method of Bre-

tonneau, Briquet, and others, whose experience has taught them that quinine proves most effective when given as near as possible to the paroxysm which has passed. Flint thinks that if the antiperiodic be given in the sweating stage, the chances of preventing the next paroxysm are greater than if the administration be delayed till after this stage. As regards doses, he says, the most effective plan is to give the remedy so as to produce evidence of cinchonism as speedily as possible. One full dose of ten to twenty grains will generally accomplish this; he prefers, however, the method of giving smaller doses — five grains to an adult, every two hours until cinchonism is produced. By this method of treatment, he affirms, in a case of quotidian type, the chances that another paroxysm will or will not occur are about even. In a case of tertian type, the chances that another will not occur preponderate.<sup>3</sup>

Bemiss<sup>4</sup> follows substantially the same line of treatment. Beginning with the sweating stage, he gives three grains of quinia every hour till eighteen grains have been taken.

Stillé endorses the same method and remarks that "the anti-febrile influence of quinia does not coincide with its physiological operations, either in time or in degree." The physiological "cinchonism," for instance, will often have passed off, when the therapeutical effects are most apparent. He considers as sufficiently disproved the theory that the antiperiodic action of quinine is due to its sedative influence upon the nervous system.<sup>5</sup>

#### THE MISSION OF A MEDICAL SOCIETY.

In an article published in this JOURNAL, June 8, 1882, attention was called to the changes which had then been only recently inaugurated in the manner of conducting the meetings of the Suffolk District Medical Society, as the local body representing the Massachusetts State Society. The change then commented upon was the division of the large and somewhat cumbersome State Society, as represented by its membership within the District of Suffolk (about 350 at that time), into smaller bodies or Sections, devoted to the various more prominent divisions of medical and surgical practice. The plan, at that time, had been recently adopted, but the result was already much greater than the most ardent advocates of the Sections could have expected.

After a period of five years, it is possible to determine the influence of the division of this District Society, and to estimate the practical advantages or disadvantages of the system of Sections. During this time the great bulk of public medical work of the members of the State Society in this District has been done in the subordinate bodies, that is, in one or another of these Sections. There are three at present

<sup>1</sup> Gubler. *Leçons de Thérapeutique*, 1880, p. 374; D. Beaumetz. *Leçons de Clin. Ther.*, t. iii, p. 781; Briquet. *Traité Thérapeutique du Cinchona*, etc., p. 590.

<sup>2</sup> Gubler. *L.c.* cit. p. 373; Dujardin-Beaumetz. *L.c.* cit.

<sup>3</sup> Flint's Practice, Third Edition, p. 822.

<sup>4</sup> Pepper's American System of Medicine, Vol. I.

<sup>5</sup> Stillé. *Therapeutics and Materia Medica*, Vol. I, page 460.

in successful operation: that for Clinical Medicine, Pathology, and Hygiene; that for Surgery; and that for Obstetrics and Gynecology. In all these bodies there has been an abundance of scientific material for discussion at each of their regular sessions; and in some of them, notably that for Clinical Medicine, extra meetings have become necessary on more than one occasion, in order to bring the papers which have been freely offered, before the Society. The system may no longer be regarded as an experiment, but has abundantly proved its usefulness, and would now be sadly missed were its career to be interrupted. The fact is surely demonstrated that the large body of physicians residing in this District can work to much greater benefit for each and all when they are able to meet in smaller bodies, each of which may be devoted to the special consideration of some definite portion of medical practice, than when the whole body of practitioners was summoned at each meeting, where only a portion might be specially interested in the proceedings. The effect of the divisions has been to afford more frequent opportunities for gathering together, and has called out, on the whole, a far greater number of the physicians to the meetings than was the rule under the old system. The various Sections have slowly advanced in favor with the members of the Society at large, until now there are probably very few who do not consider their establishment a decided advantage to the Society itself, as well as to the individual members of the Suffolk District.

One of the most valuable indications of the healthy influence which the system of Sections has exerted upon the general profession is seen in the fact that the younger members of the Society are actively engaged in valuable work, and that they are encouraged to bring the fruits of their labors before their colleagues for their mutual benefit. There is a feeling that good work is gladly accepted from any source. It is safe to say that at no former time in the history of the Suffolk District Society has there been developed so healthful an activity among all its members, and among the profession at large, as now exists, and certainly at no previous period has there been anything approaching the amount of valuable work accomplished by the Society in its divisions as Sections, or as an individual body. The Sections are now in good working order, and are fulfilling the highest mission of such an organization. There is little of idle material in their composition, and all seem to be working for the best interests of the profession, which alone should be the aim of such a society.

The officers of the various Sections, as well as those of the general Society, are devoted to their work, and their efforts have always been generously and heartily seconded by the members. The reports of the meetings are quite full, and their production is accompanied by an amount of care, and at an expense of time and energy which speaks well for the diligence and integrity of the various secretaries. One very much needed

improvement in the Sections would be the employment of a professional shorthand writer, who should relieve the secretaries of much of the mere routine work, and thus enable them to add still more to the general efficiency of the work done at the meetings. The union of the various Sections in this effort would be the means of benefit to each, and the expense would not be a matter of any considerable importance.

We have thus passed in review the main features in the short history of the Sections, with suggestions for the further improvement of their work, and a more extensive degree of usefulness from their labors. It is not to be thought that they have yet arrived at the highest attainable degree of utility; and what has been already accomplished is only an indication of the way in which we should continue to push our efforts, trusting that another five years will show even greater results than those already accomplished. With a continuance of the loyal support thus far accorded to the Sections by the profession, this will certainly be effected. There was never a time when the work of medical progress was carried on with a greater degree of enthusiasm than at present, and there never was a time when the promise for positive and valuable results was so flattering as now. We are glad to notice among other District divisions of the Massachusetts Medical Society, though, it must be confessed, in a lesser degree, the same desirable tendency to an awakened activity.

#### HOSPITAL SATURDAY AND SUNDAY ASSOCIATION OF NEW YORK.

THE eighth annual report of the Hospital Saturday and Sunday Association, which has just been published, shows that the collection of 1886 presents an increase from its various sources, both secular and religious, in almost equal proportion. The total collection for 1886 amounted to \$53,051.98, as against \$46,085.38 in 1885, and \$36,542.75 in 1884.

When the work was first organized, the offerings from the churches came almost altogether in the form of designated gifts to particular institutions having specific denominational connections, so that this class was inordinately favored above institutions of an undenominational character. Without positively refusing designated gifts, the Association has worked steadily to discourage them, as out of harmony with the broadly humanitarian spirit of the movement, and, as events have proved, with excellent success. In the collection for 1880, for example, the designated portion constituted 45 per cent. of the whole collection, and 80 per cent. of the church collections, from which source they were chiefly derived. In the last collection, on the other hand, the designated gifts to denominational institutions had fallen from 45 per cent., in 1880, to 24 per cent. of the total collection, and from 80 to 38 per cent. of the church collections—a rate of decrease, which, if maintained, will, in a few more years, see this form of donation entirely eliminated

from the collection. Attention is also directed to the gifts of ladies in the last collection, and the hope is expressed by the Association that, out of this beginning in special interest on the part of the women of New York, there may eventually result a helpful ladies' auxiliary.

As heretofore, the Episcopal church, by members of which the hospital collection was originated in this country, continues to be by far the most liberal in its contributions to the Association. These amounted, in the last collection, to \$16,378, or nearly one-third the entire sum collected from all sources. Next come the Presbyterians, with \$6,458; the Congregationalists, with \$3,520; the Israelites, with \$1,602; the Methodists, with \$1,402; the Reformed (Dutch), with \$1,262; none of the other denominations giving as much as a thousand dollars.

The Roman Catholics have never entered to any extent into this movement, and the total contribution from them is only \$168, which is specially designated to an institution under the direction of that church. From religious sources, the whole amount contributed is \$32,784.66; and from secular sources, \$20,267.32.

#### MEDICAL NOTES.

— A device has been patented in England for the combustion of sewer-gases, which is said to act perfectly.

— Dr. A. Meynot has given the Académie de Médecine 70,000 francs for the foundation of two annual prizes; one for studies on diseases of the eyes, and one on diseases of the ears.

— A Norwegian physician named Mohn, discovered after disinfecting the bedding of one of his own children who had suffered from scarlet fever, that another child who had whooping-cough and who accidentally inhaled some of the fumes of the sulphur, was suddenly cured of the disease. Acting on this suggestion, he has treated other cases of pertussis by placing the patients in a room where sulphur had been burned in the usual manner in which it is employed for disinfectant purposes. He claims that after being put to bed in such a room, the patients awake the next morning cured.

— The *New York Sun* tells a pretty story of a woman who was carrying three leeches home, in a street-car, from an apothecary's for her sick husband, when one escaped from the box and fastened upon her wrist. Piercing shrieks from the lady called the attention of the passengers to the mishap. One man, unusually bold, went to the rescue and removed the creature, but on replacing it in the box it was found that the other two had also escaped. A general panic ensued with screams and mounting of seats by the female passengers, each of whom imagined she was wearing one or both of the other two leeches. A semblance of peace was restored only

when the missing creatures were found in the matting of the car. Their spirit was broken and their functional uselessness past restoration, but the sick man for whose swollen leg they were intended, on hearing the story, laughed till the swelling went down.

#### BOSTON AND NEW ENGLAND.

— The lectures by Dr. J. S. Billings on the History of Medicine before the Harvard Medical School will be delivered at the school building on Boylston street, on the 4th, 5th, 6th, 9th, 10th, and 11th of May, at 7.30 p. m., in lecture-room C.

— *A Marine Biological Laboratory.* — A laboratory was established at Annisquam, on Cape Ann, in 1881, by the Woman's Educational Association, with the cooperation of the Boston Society of Natural History, for students in zoology and botany, and especially for such as desired to become teachers. Since then, instruction has been given to 102 students, men and women, but the instruction has been almost wholly gratuitous, and the equipment meagre.

It is desired to extend the facilities offered by this laboratory, and to place it upon a more permanent basis. At a meeting recently held, which was attended by a number of naturalists, most of them officers of the New England colleges, it was resolved to try to raise \$7,500, to pay for a location, building, and equipment, and as much more to carry on the work of such a marine biological laboratory, as is proposed, for five years. A Committee was appointed, of which Prof. Alpheus Hyatt is Chairman, and Miss Phillips, 23 Marlboro Street, Boston, is Secretary. Subscriptions may be sent to Samuel Wells, Esq., 31 Pemberton Square, Boston.

— A most important addition is to be made to the Hemenway Gymnasium, at Harvard College, through the generosity of two gentlemen, the name of one of whom is not announced, the other of whom is Mr. Henry R. A. Carey, of New York City, a special student. The latter has given the College \$25,000, to be used in erecting a swimming bath at the rear of the gymnasium. There was a brief agitation of the subject last spring. Borings were made, and water was found in abundance. Plans were drawn up, and it was hoped that the building might have been erected and in use during the winter; but funds were lacking, and the scheme had to be given up. The gift of Mr. Carey will enable the College authorities to erect a handsome, well-equipped building at once. The usefulness, and even necessity, of a swimming bath has been felt for a long time, and it will be a great addition to the present facilities for gymnasium work and exercise. There are no swimming baths connected with any college gymnasiums at present, though it is said that there are quite a number in operation in the various large cities. Dr. Sargent highly approves the idea, and has advocated it for years. Operations will be begun immediately. The following description of the contemplated building is given: It is to be about 100 feet long by 60 feet broad. It will stand immedi-

ately back of the gymnasium, between the Jefferson Physical Laboratory and the Law School. The building will be of brick, and of a style of architecture to harmonize with that of the gymnasium. A covered passage-way will connect the two buildings, in order that the students exercising in the gymnasium may take a plunge without leaving the building. Moreover, all of the 974 lockers at present in the gymnasium are to be moved into the new building, and their space used for a larger fencing-room, and for added athletic appliances. The small douche-room is to be moved into the new building, or rather, a new one will be built, which will contain improved apparatus. The entire cost of the building, including the gift of Mr. Carey, will be about \$75,000. Besides the bathing and dressing facilities referred to, the new building is to have a perfectly-equipped racquet court. It is hoped that the building will be ready for use by the beginning of the next college year.

#### NEW YORK AND NEW JERSEY.

—Columbia was not as generous to the profession with her honorary degrees, on the occasion of her recent anniversary celebration, as Harvard was; the only two medical men on whom such degrees were conferred being Helmholtz, of Berlin, and Dr. John C. Dalton, President of the College of Physicians and Surgeons, of New York.

—The new library building, which is to be erected at Yale, through the generosity of the Hon. Simeon B. Chittenden, of Brooklyn, is intended as a memorial of the only daughter of the donor, who was the first wife of Prof. W. T. Lusk, of New York. The building, which will be the first of four or five semi-detached structures around the main library of the University, to be erected as occasion requires, will contain a handsome memorial window bearing the name of Mrs. Lusk, who is said to have been born a short distance from the spot.

—On account of the steady increase of diphtheria during the past few years, a number of prominent physicians have organized a movement to a hospital, to be devoted exclusively to cases of this disease.

—At the request of President Bayles, of the Board of Health, a census of dwellings for the poor, stables, etc., has been made, which shows that below One Hundred and Thirtieth Street, there are 28,977 tenement-houses, 316 lodging-houses, 4,576 stables, 5,522 vaults, 10,164 school-sinks, and 14,369 closets.

—About four weeks ago, measles broke out in the Brooklyn Nursery, on Herkimer Street, Brooklyn; and since that time, thirty-five out of the fifty inmates have had the disease, while the number of deaths from it has reached nine. The age of the children ranges from six months to four years, and the disease is said to have been introduced into the institution by two children who were in good health at the time of admission, but who had already been exposed to the infection of measles.

—On April 11th, the corner-stone of the Townsend pavilion annex to Bellevue Hospital was laid, with appropriate ceremonies. The new building is designed especially for cases of abdominal surgery among women, and Dr. W. Gill Wylie is to be the surgeon in charge. It is generously erected as a thank-offering by Mrs. R. H. L. Townsend, of New York, in gratitude for the success attending an operation upon herself, and will be under the supervision of a committee of ladies belonging to Calvary Church. It is to be a two-story, cottage-like structure, with a frontage of seventy feet on First Avenue, and will cost about \$7,000.

—Last week, a very successful kirmess was held at Paterson, N. J., for the benefit of the Ladies' Hospital of that place, and it is believed that about three thousand dollars will be received by the institution from the proceeds.

#### PHILADELPHIA.

—The Commencement Exercises of two of the medical schools took place last week. At the Sixty-Second Annual Commencement of the Jefferson College, which was held April 5th, Prof. Holland delivered the valedictory address, and 187 students were graduated. The Alumni Oration was given by Prof. Hunter McGuire, of Richmond, Va., on the night preceding the Commencement. His subject was the "Progress and Development of Medical Science." The lecture was held in the Hospital of Jefferson Medical College; subsequent to the lecture a reception was tendered Dr. McGuire at the Bellevue Hotel by the Alumni and friends.

—The Sixth Annual Commencement of the Medical-Chirurgical College was held on the 7th inst. Prof. P. D. Keyser delivered the Valedictory Address and Prof. Dudley S. Reynolds, of Louisville, Ky., and President of the Mississippi Valley Medical Association, delivered an Alumni Oration on "Medical Teaching, Past and Present." A dinner was afterwards held at the Colonnade Hotel, at which there were 210 covers; this is believed to be the largest entertainment by a medical college ever given in this city.

—The cause of higher medical education is not allowed to languish here, and it is quite evident to those whose observation extends over several decades that students are worked harder, longer, and to more practical ends than ever before. The examinations are more carefully conducted and are more thorough year by year. An effort has been made by the State Medical Society, by appointing a Committee on the subject, to have a State Board of Examiners and Licensees established, who alone shall confer the privilege of medical practice. Unfortunately, this has met with some opposition, both open and secret, from the colleges, who consider that they have some vested rights which are imperilled. A Matriculation Board to pass upon the preliminary qualifications of the student before permitting him to register, would probably be even less acceptable to the schools, but would

greatly aid in improving the standards of medical education and practice.

—The surgical practice of the Pennsylvania Hospital, one of the oldest and most conservative of American hospitals, has been so improved by the introduction of antiseptic dressings and methods that it is believed to be impossible for a surgeon who does not use antiseptics to be elected a member of the staff.

—Dr. William Hunt, one of the prominent surgeons of the city, met with a serious injury lately. While walking across a street he was knocked down and run over by a wagon, by which he incurred fractures of the humerus and clavicle, and severe contusions. He is slowly recovering from the accident, but will be crippled for some time to come.

—Dr. W. W. Keen, of St. Mary's Hospital, has recently performed a laparotomy for gunshot-wound of the abdomen, the subject being a woman living in Vineland, N. J., not far from this city. The patient perished finally with peritonitis, which was attributed to the presence of effused blood in the peritoneal cavity, occurring prior to operation. The autopsy showed perfect union of the wounds which had been ligatured. Dr. Jos. Hearne performed the same operation upon a boy, wounded by a toy rifle, on the 15th inst., but

the liver was wounded and the hemorrhage had been profuse; the patient scarcely survived the operation.

## Correspondence.

### THOUGHT-TRANSFERENCE.

Boston, April 14, 1887.

MR. EDITOR,—I had not thought my remarks on the subject of thought-transference at the meeting of the Clinical Section of the Suffolk District Medical Society, of sufficient importance to trespass on your space by correcting a mistake in the report, but as Mr. Gurney has taken notice of them, I feel that it is only just to answer his criticism.

In connection with Dr. Royce's suggestion that telepathy might be "a persistent trait of a former less cultured condition of the mind, a rudimentary characteristic," I called attention to the fact that the phenomena of transfer of sensation, and the curious phenomena of hypnotism were produced chiefly in hysterical patients, and those whom Féré termed "*dégénérés*,"—people whose nervous development was in some way defective,—and I added that it would be of interest to know whether the subjects of telepathy belonged to the same class. The subjects of hypnotism and the subjects of telepathy are both probably few in number, but nothing could have been farther from my intention than to speak of the latter, of whom I have no personal knowledge, as "the subjects of morbid mental or moral conditions," or to class them as "weak-minded."

Yours truly,

PHILIP COOMBS KNAPP, M.D.

### REPORTED MORTALITY FOR THE WEEK ENDING APRIL 9, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Croup.	Menses.
New York . . . . .	1,481,920	771	274	15.99	19.01	1.82	8.58	1.30
Philadelphia . . . . .	993,801	—	—	—	—	—	—	—
Brooklyn . . . . .	745,108	318	126	15.81	11.47	1.86	6.82	2.79
Chicago . . . . .	725,000	—	—	—	—	—	—	—
St. Louis . . . . .	420,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	156	58	7.04	10.88	.64	—	.64
Boston . . . . .	400,000	205	75	9.31	16.66	1.96	2.45	1.95
New Orleans . . . . .	242,750	124	34	16.21	17.82	6.48	3.24	—
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
District of Columbia . . . . .	210,000	89	36	7.44	24.80	2.48	1.24	1.24
Pittsburgh . . . . .	210,000	84	36	21.61	26.18	—	4.76	4.76
Montreal . . . . .	186,257	—	—	—	—	—	—	—
Milwaukee . . . . .	170,000	55	29	9.10	12.74	—	7.28	—
Providence . . . . .	121,000	47	23	27.69	17.04	4.26	4.26	17.04
Richmond . . . . .	100,000	36	14	13.90	13.90	—	—	2.73
New Haven . . . . .	80,000	—	—	—	—	—	—	—
Nashville . . . . .	65,000	—	—	—	—	—	—	—
Charleston . . . . .	60,145	29	7	17.25	20.70	6.00	—	3.45
Portland . . . . .	40,000	10	2	—	—	—	—	—
Worcester . . . . .	68,383	23	8	—	—	—	—	—
Lowell . . . . .	64,051	—	—	—	—	—	—	—
Cambridge . . . . .	59,930	22	2	4.35	4.35	—	—	4.35
Fall River . . . . .	56,883	20	11	10.00	5.00	—	5.00	—
Lynn . . . . .	45,861	19	5	5.26	26.30	—	5.26	—
Lawrence . . . . .	38,825	15	3	—	—	—	—	—
Springfield . . . . .	37,577	15	2	20.00	13.23	—	6.66	—
New Bedford . . . . .	35,835	7	1	14.28	—	—	14.28	—
Somerville . . . . .	29,992	3	1	66.66	—	33.33	—	—
Salem . . . . .	28,084	15	5	—	—	—	—	—
Holyoke . . . . .	27,894	10	5	30.00	10.00	10.00	—	20.00
Chelsea . . . . .	25,709	14	1	7.11	—	—	—	7.11
Taunton . . . . .	23,674	8	1	—	12.50	—	—	—
Haverhill . . . . .	21,738	9	2	—	11.11	—	—	—
Gloucester . . . . .	21,713	1	0	—	—	—	—	—
Brockton . . . . .	20,783	5	2	20.00	20.00	—	—	—
Newton . . . . .	19,759	5	2	—	—	—	—	—
Malden . . . . .	18,407	5	2	—	—	—	—	—
Fitchburg . . . . .	15,575	8	0	—	37.50	—	—	—
Waltham . . . . .	14,600	2	1	—	50.00	—	—	—
Newburyport . . . . .	13,716	8	0	—	25.00	—	—	—
Northampton . . . . .	12,896	5	2	—	—	—	—	—

Deaths reported 2,149: under five years of age 777; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 298, acute lung diseases 476, consumption 365, diphtheria and croup 112, measles 45, diarrheal diseases 41, malarial fever 24, typhoid fever 18, scarlet fever 17, cerebro-spinal meningitis 12, whooping-cough 11, puerperal fever nine, erysipelas eight, small-pox one. From malarial fevers, New Orleans eight, Brooklyn six, Baltimore five, New York four, Charleston one. From typhoid fever, New York and Pittsburgh, five each, Boston, Richmond, and Worcester two each, Baltimore and Springfield one each. From scarlet fever, New York seven, Brooklyn and Boston three each, District of Columbia, Pittsburgh, Providence, and Brockton one each. From cerebro-spinal meningitis, New York seven, Boston, Baltimore, Worcester, Fall River and Somerville one each. From whooping-cough, New York, Brooklyn, Baltimore and Richmond two each, Pittsburgh, Newport, and Charleston one each. From puerperal fever, New York and Pittsburgh three each, Brooklyn two, Springfield one. From erysipelas, New York four, Brooklyn, District of Columbia, Pittsburgh and Milwaukee one each.

In the 20 cities and greater towns of Massachusetts, with a population of 973,945 (population of the State 1,941,465), the total death-rate for the week was 21.95 against 22.22 and 23.72 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,000, for the week ending March 26th, the death-rate was 23.5. Deaths reported 4,155: infants under one year of age 895; acute diseases of the respiratory organs (London) 509; measles 223, whooping-cough 97, scarlet fever 46, diarrhoea 35, fever 32, diphtheria 26.

The death-rates ranged from 16.1 in Derby to 35.4 in Manchester; Birmingham 20.5; Bradford 24.6; Hull 29.4; Leeds 21.5; Liverpool 28.7; London 21.5; Newcastle-on-Tyne 21.6; Nottingham 21.2; Portsmouth 21.2; Sheffield 22.3.

In Edinburgh 24.6; Glasgow 28.5; Dublin 31.3.

The meteorological record for the week ending April 9, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.		Relative Humidity.		Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
		Daily Mean.	Maximum.	Minimum.	7.00 A. M.	2.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	2.00 P. M.	11.00 P. M.	7.00 A. M.	2.00 P. M.	11.00 P. M.		
Saturday, Apr. 9, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	2.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	2.00 P. M.	11.00 P. M.	7.00 A. M.	2.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount in Inches.
Sunday.... 3	29.889	44.0	52.0	30.0	55.0	33.0	53.0	47.0	W.	W.	S.W.	17	12	11	C.	O.
Monday... 4	29.890	41.0	62.0	37.0	78.0	60.0	100.0	82.0	S.	E.	N.E.	12	10	10	O.	O.
Tuesday... 5	29.795	36.0	47.0	30.0	94.0	54.0	53.0	67.0	W.	W.	W.	6	22	15	R.	F.
Wednesday... 6	30.122	32.0	40.0	23.0	57.0	32.0	46.0	45.0	N.W.	N.W.	W.	20	22	8	C.	C.
Thursday... 7	30.156	36.0	42.0	28.0	57.0	24.0	35.0	39.0	N.W.	N.W.	N.W.	8	14	6	C.	C.
Friday... 8	30.574	37.0	46.0	25.0	49.0	69.0	65.0	58.0	N.W.	S.E.	S.W.	6	12	6	C.	C.
Saturday... 9	30.226	52.0	63.0	35.0	68.0	34.0	60.0	54.0	W.	W.	S.W.	14	14	18	F.	F.
Mean, the Week.	30.123	40.0	50.0	29.0				56.0								

O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; N., snow; Sl., Sleet.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 9, 1887, TO APRIL 15, 1887.

KANE, J. Jno., captain and assistant surgeon. Resigned April 13, 1887. S. O. 85, A. G. O., April 13, 1887.

RICHARD, CHARLES, captain and assistant surgeon. Granted two months' leave of absence on surgeon's certificate of disability. S. O. 82, A. G. O., April 9, 1887.

WALKER, TRUMAN V., first lieutenant and assistant surgeon. Ordered from Fort McIntosh, Tex., to Post of San Antonio, Tex. S. O. 45, Department of Texas, April 11, 1887.

The Army Medical Board, New York City, New York, is dissolved. S. O. 82, A. G. O., April 9, 1887.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 16, 1887.

GRIFFITHS, S. H., passed assistant surgeon. Detached from the United States Steamship "Lancaster," and waiting orders.

HIBBERT, C. T., passed assistant surgeon. Detached from duty on Iron Clads, City Point, Va., and waiting orders.

MARSTELLER, F. H., passed assistant surgeon. Ordered to duty on Iron Clads, City Point, Va., the 20th instant.

#### SOCIETY NOTICE.

NORFOLK DISTRICT MEDICAL SOCIETY. — A meeting for Scientific Improvement will be held at the hall of the Roxbury City Guard, 67 Warren Street, Roxbury, April 26, 1887, at 7.45, P.M. "The Rosalind Disaster." "Nature of the Injuries." Clement W. Sparhawk, M.D. "Head Injuries." Henry W. Broughton, M.D. "Appliances useful in such an Emergency." Harold C. Ernst, M.D. "Personal Experiences, and Lessons of the Disaster." Joseph Steadman, M.D. "Injuries to the Back, and Effect of Shock upon the Menstrual Function." E. Penabody Gerry, M.D. (To be announced). Charles R. Whitcombe, M.D. If time is insufficient for a satisfactory consideration of all the above subjects, the last one or two will be postponed to the meeting of May 10th. Members of other District Societies are cordially invited to be present.

S. ALLEN FOTTER, M.D., Secretary.

#### ERRATUM.

In the article of Dr. Channing, published last week, for the statement (p. 251), that the Columbus, Ohio, Asylum was built forty-eight years ago, read *forty-eight* years ago.

#### APPOINTMENT.

Prof. R. H. Fitz, M.D., has been appointed Visiting Physician to the Massachusetts General Hospital.

#### DEATHS.

Died in Providence, April 18th, E. T. Caswell, M.D., formerly President of the Rhode Island Medical Society and Surgeon to the Rhode Island Hospital, aged fifty-three years.

Died in Roxbury, Boston, April 16, 1887, John Sydenham Flint, M.D., M.M.S.S., aged sixty-three years.

Died in Melrose, Mass., April 18, 1887, Joshua Vincent Smith, M.D., M.M.S.S., aged forty-one years, seven months.

#### OBITUARY. ANANDABAI JOSHEE, M.D.

The news of the death of Dr. Anandabai Joshee, from phthisis, at Poona, India, February 25, 1887, has just reached us. Some notice of this remarkable woman was made in the JOURNAL last June, which its readers may remember. Dr. Joshee was a high caste Brahmin lady, the only one who has ever received a full medical education. Her life was a remarkable one. Born and brought up in a land where woman's social position is a degraded one, she was married at the age of ten. Her husband, unlike the majority of the Indian men, was a believer in the education of women, and devoted himself to instructing her not only in the ordinary branches but in many of the higher ones also. In the spring of 1883, at the age of nineteen, she started alone for America, and in the fall of that year began to attend lectures at the Woman's Medical College of Pennsylvania. She graduated in March, 1886, standing well in her class, and then came to Massachusetts to fulfil a short appointment at the New England Hospital. Her work there, however, was interrupted by ill health, which continued until she sailed for India. She had received previous to graduation an appointment as Resident Physician in the Woman's Wards of the Albert Edward Hospital, in Kolapore, India, and doubtless had before her a brilliant future, not only in the work she might do personally, but in the immense field which lay before her in ministering to the sick and suffering, and in opening the way to the elevation of her own people. She was a faithful student and a good worker, true to herself and to her religion, and we sincerely deplore her loss so early in her life of usefulness.

## Original Articles.

## CASE OF ANEURISM OF THE INNOMINATE.

TREATED FOR FOURTEEN MONTHS BY REST, DIET, PRESSURE, AND IODIDE OF POTASH, WITH SUBSEQUENT LIGATION OF THE CAROTID AND SUB-CLAVIAN ARTERIES. DEATH AND AUTOPSY.

BY GEORGE H. LYMAN, M.D.,  
Visiting Physician, Boston City Hospital.

JOHN HARRIGAN, a porter, age thirty-eight, and married, entered the City Hospital September 22, 1884. Says he was never sick until eighteen months ago when he was in the hospital for a short time with neuralgia of the head and shoulder. Never drinks to excess and there is no history of venereal disease. Not aware of any strain or injury from heavy lifting. Three weeks before entrance he first noticed a swelling near the right sterno-clavicular articulation which interfered somewhat with respiration and deglutition. Thinks it has increased within three or four days. Painful only on pressure. Right radial pulse very feeble. Has constant sharp pain in the head and shoulder extending down the arm, some dyspnoea noted.

October 9th. Complaints of vomiting and of numbness in the right arm, neuralgia less severe, no pulmonary nor laryngeal symptoms, no dysphagia and the pulse and temperature normal. The inner end of the clavicle is displaced forwards by a pulsating tumor extending from near the centre of the sternal notch to the inner third of the clavicle, and a large fingers' breadth above and below that bone, about the size of a hen's egg, with a soft bruit in the upper part. No thrill. The rise and fall of the inner end of the clavicle perfectly visible. Left pulse normal, right pulse absent. Operative interference having been declined, and the patient being intelligent and in good general physical condition, it was determined to give him the chance of pressure with absolute rest, diet, etc. The need of implicit compliance with instructions being explained, he assented at once, and it may here be said that he followed them without complaint or infringement for the ensuing fourteen months. He was directed to maintain absolute rest upon his back and with much diminished diet to begin with ten grains of iodide of potash in infusion of hops, three times daily. Upon a plaster cast of the tumor heavy sheet lead was moulded and the plates increased to one and one-half pounds.

October 19th. The patient adapts himself with little discomfort to the restraint and is much more comfortable. The iodide increased to twenty grains.

October 24th. Tumor less prominent. Weights increased one-half pound.

October 28th. Sphygmograph shows less tension. Iodide twenty-five grains.

November 7th. A small painful swelling on right of lower jaw due probably to contact with the weight, as it disappeared when they were readjusted.

November 17th. Tumor smaller. Pulsation unchanged. Diet now consists of ten ounces of steak daily and two or three pints of fluid, less than that causing restlessness and discomfort.

November 26th. Iodide increased to thirty grains.

January 1, 1885. Pulse and size of tumor less than at any time. General condition excellent. Iodide to forty grains.

January 14th. The weights have been renewed

from time to time over fresh casts of the tumor, to secure as close adaptation as possible. He is now wearing the fifth cast, weighing 3 and 3-16 pounds. Steak increased to twelve ounces.

January 17th. For the second time has slight conjunctivitis in left eye with photophobia, for which mild collyria were ordered, and two days later the right eye was similarly affected and a superficial ulcer developed at the inner edge of the left cornea with pain and photophobia. In ten days, under a solution of atropine the eyes recovered so that he could dispense with the shade.

February 28th. A sixth cast to-day shows a manifest diminution in the prominence.

March 12th. General condition good. Has now twelve ounces steak and does not exceed two pints of liquids.

April 1st. A manifest diminution in projection of tumor. Complains the past week of neuralgic pains in the back of the head where the hair has been rubbed thin. These were relieved by a bed-rest slightly elevated. Complains of vertigo which is very annoying.

April 13th. The pains and vertigo are relieved. The six months of treatment have resulted in small but undoubted gain in pulsation, size and hardness.

May 1st. The diet increased to fourteen ounces of solid food. The lower part of the tumor is nearly solid, but the upper part has changed less. A consultation was had with Drs. Gay and Bradford, with reference to the propriety of distal ligation of the carotid, but as there was some apparent and continuous gain, operation was deferred.

June 1st. Below the clavicle the pulsation could hardly be felt, above the clavicle much less and the lateral expansion also. During the summer months he was under the care of my colleagues. At one time aconite was substituted for the iodide and the solid food increased to sixteen ounces. At the end of three weeks he had an attack of indigestion, nausea, vomiting and abdominal pain, the aconite was omitted and the indisposition yielded. On resuming service, October 10th, I found his general condition good, the pulsation below the clavicle entirely gone, and that portion of the tumor solid. Above the clavicle and at the sternal extremity, the pulsation greatly diminished and the clavicle itself was no longer moved by the pulsation.

November 12th. The calipers gave a transverse diameter of two and one-eighth inches; for the sternal end upwards two inches, and an inch to the right a vertical diameter of two and one-fourth inches. Parietes more dense and resisting. Pulsation less forcible and expansive. No bruit nor thrill.

November 20th. Seems strong and was permitted to sit up and move about a little.

November 27th. The experiment of sitting up was not encouraging, as a pulsation in the upper part of the tumor and a thrill in the carotid were developed.

As portions of the tumor had now for some time become quite solid and as no farther improvement could be reasonably expected, without surgical interference by distal ligation of the carotid or sub-clavian, one or both, and to which the patient and his friends willingly assented, he was transferred to Dr. G. W. Gay's service, from the records of which the remainder of this report is completed.

At the time of the patient's transfer to the surgical side, the aneurism extended about two inches above the clavicle, and about three inches towards its outer

<sup>1</sup> Reported at the Boston Society for Medical Improvement, March 28, 1887.

end. There was a bruit, and an expansile pulsation. No pain. Little, if any, hoarseness: no trouble in swallowing or breathing. General condition good. Pulsation in right radial very weak. No numbness or coldness of right hand.

After a careful consideration of the risks of secondary hemorrhage and of shock, it was decided to tie the carotid artery and leave the subclavian for a future operation. The disturbance from the following method of tying large vessels was so slight that in future it would undoubtedly be better to tie both vessels at the same time.

On December 11, 1885, the patient was carefully etherized, no difficulty occurring with his respiration. An incision three inches long was made by Dr. Gay, over the anterior edge of the right sterno-mastoid muscle, extending to the upper edge of the tumor. He then made a careful dissection in the superior carotid triangle, down to the common carotid artery. No ligatures used, thus far, except for a small superficial vein before it was divided. The common carotid artery was laid bare for about three-fourths of an inch just beneath the omo-hyoid muscle, which was partially divided for that purpose. The vessel having been carefully isolated, was surrounded by two braided-silk antiseptic ligatures, about three-fourths of an inch apart. These were tightly tied, and the ends cut off short. The vessels were then divided mid-way between the ligatures, with scissors. The ends of the divided artery immediately retracted, so that there was from half to three-quarters of an inch separation between them. The wound was washed with carbolic solution (1-20), dusted lightly with iodoform, and a small drainage-tube (extending through the deep cervical fascia) fastened in place. The wound was then closed with silk sutures, and a dressing of iodoform and corrosive gauze applied. Good recovery from ether. The only immediate symptoms from the operation were headache on the right side, slight hoarseness, and slight coldness of the right ear. The last-named symptom remained only one day: the headache lasted only two days. On the day following the operation, the radial pulse was found to be a little stronger than before.

The wound was dressed about every second day: the drainage-tube was removed on the third day after the operation, and the sutures on the fourth. No pus was seen at any time, and the wound (including site of drainage-tube) was wholly healed eleven days after operation. The temperature did not rise above 99.9°: the pulse increased from an average of 90 to an average of 110, and subsided in about a week to the former rate.

Examination five days after the operation, showed that the aneurism had shrunk very perceptibly above the clavicle, and that the pulsation was weaker.

The right radial pulse was the same as before the operation. Patient continued very comfortable, requiring no opiates; had no further cerebral or neurotic symptoms. About eight weeks after the operation, complained of a little pain about the right shoulder and arm; he thought arm was stiffer and more numb than previously. Had slight headache once or twice. Increase in size of aneurism very noticeable. Pulse in right radial has diminished in strength for ten days past.

After another consultation of the staff and desire expressed by the friends for further operative measures, it was decided to tie the subclavian artery.

February 9th (sixty days after ligature of the com-

mon carotid), ether was again given, and Dr. Gay made an incision about three inches long, just above and parallel with the clavicle. From the middle of this incision, a second one about an inch long, was carried perpendicularly upward. Considerable difficulty was experienced in finding the subclavian, in the course of which, a large vein, deep in the neck, was cut and ligatured. One branch of the cervical plexus was also divided. The artery was finally found, lying very deeply and about an inch higher than its usual position. The vessel was tied in two places with braided silk, and then cut across between the ligatures, the ends separating by retraction, about half an inch. A smaller artery anterior to the subclavian was also tied in like manner. The difficulty in finding the subclavian was largely due to the disturbed relations of the parts, caused by the pressure of the aneurism. A drainage-tube was inserted, the wound closed with sutures and dressed with iodoform and gauze.

After the operation, the right hand was numb, and somewhat painful: no radial or ulnar pulse on that side. Hot fomentations relieved most of the pain in hand and arm. The temperature did not rise above normal. Five days after the operation, the wound had healed by first intention, except at location of the drainage-tube. The aneurism was of about the same size, but the pulsation was somewhat less than before the operation. The hand was warm, and of good color. The tube and stitches were removed eleven days after the operation. A few drops of pus were then found about the tube: none seen previously. The wound was entirely healed eighteen days after the operation.

March 9th (one month after the operation) a plaster cast of the tumor was taken, and from this was made a lead weight weighing one and a half pounds, oval in shape and slightly larger than the tumor. This was evenly padded on its under surface and kept in place over the tumor by broad straps of adhesive plaster. Six days later, the weight was increased to two pounds, and eight days after that, to two pounds and ten ounces.

May 16th, the aneurism was less prominent than it had been two months before: there was apparently less pulsation. Patient had had unlimited diet and was growing fat.

July 17th, he sat up in bed: six days later he was up with clothes on for an hour.

Comparison of two casts of the tumor; one taken March 9th, and the other June 7th (period of using lead weight), shows quite a marked diminution in the prominence of the tumor.

The patient remained in the hospital at this time, until July 31st; at which time the width of the pulsating tumor on a line with upper border of clavicle was three inches. Vertical diameter was two and a half inches. Pulsation moderately strong; walls of sac apparently pretty thick. No pain. No affection of voice or head, and no dysphagia. One hand strong in grasp as the other.

December 22, 1886, Harrigan was again admitted to Dr. Lyman's service at the hospital. For two months after leaving, he reports that he was comfortable, but about October 1st, he began to be troubled with cough and dyspnea. Not paroxysmal—orthopnea. Expectoration thin and frothy, no blood. Complaints of weakness, anorexia, and more or less constant headache. He continued to fail, suffering much from dyspnea and died apparently from exhaustion, December 30th.

Unfortunately only a partial autopsy was permitted. The following is a report of the examination:

Crucial incision made over the sterno-clavicular articulation, the inner end of the clavicle was disarticulated and raised up. The under surface, for the space of an inch and a half was worn away smooth, involving about two-thirds the thickness of the bone, cup-shaped. The inner edge of the first rib, for the space of an inch and a half, was roughened.

The aneurism extended from a point an inch and a half above the clavicle, downwards, backwards, and to the left of the vertebral column for a distance of about eight inches. The trachea and oesophagus were crowded to the left. The antero-posterior diameter of this cavity was about four inches. It was estimated that the sac, after the clot was removed, would hold between one and two pints. The clot was laminated, and was three and one-half inches thick from the top to the cavity, which was filled with black, soft, clotted blood. This cavity would hold about two ounces. The carotid artery was impervious for the space of an inch. The subclavian was pervious for three-fourths of an inch, which was all that was removed. The vertebrae were not eroded, and did not suffer from pressure. The trachea was not diminished in calibre. The carotid and subclavian arteries emerged from the sac on the posterior surface, separated, showing that the aneurism involved the innominate artery.

The above case seems worthy of record as an instance of great relief to painful symptoms, and a positive prolongation of life in a disease necessarily fatal. An aneurism of the innominate with a sac, estimated at the autopsy to be of the capacity of one or two pints, and filled by laminated fibrine to such a thickness as to have a cavity of two ounces only, is interesting in connection with the treatment of aneurismal affections in other localities. It can hardly be doubted that the treatment prolonged life and gave great relief to the sufferer—more than that could hardly be expected in such a locality, as no counter-pressure is available to prevent the expansion of the sac inwards and downwards. Whether galvanic puncture or electricity in any of its forms would have done better is problematical. On the whole, iodide of potassa, with rest, pressure, etc., seems to be as promising as anything. Its mode of action is very uncertain. One would suppose that an excess of alkalinity would be far from desirable, but the assertion of Balfour, that no internal remedy holds out such prospect of relief, is quite in accord with the opinion of many of the best observers. He attributes its effect to its sedative action on the heart, combined with some specific effect upon the fibrous tissues, "by which the contraction of the sac is aided and its walls strengthened and condensed."<sup>2</sup>

#### OVER-DISTENSION OF THE RIGHT VENTRICLE, WITH A REPORT OF SIX CASES TREATED BY LEECHES.<sup>1</sup>

BY F. C. SHATTUCK, M.D.,  
Visiting Physician, Massachusetts General Hospital.

AN indispensable factor in efficient cardiac action is that each chamber of the heart should be able to propel onward all the blood which is delivered to it from behind, a proper balance of the circulation thus being

maintained. The tendency of any block to the circulation of the blood, no matter what its cause, is to an over-accumulation of blood in the venous, a deficiency in the arterial system; and this tendency is, of course, more or less remote, according to the proximity of the block to the starting point of the systemic arterial circulation. Thus degenerative changes in the arterial walls, and lesions at the aortic orifice do not affect the lungs, the right heart, and the veins behind, as long as increased power in the left ventricle balances the increased work which it has to perform. If the left ventricle cannot respond to the heightened demands, or has lost the capacity for doing so which it possessed for a time, the mitral valve gives way, and we get, secondarily, much the same condition of things which we find, primarily, when the seat of the original block was at the mitral or tricuspid orifices, or in the lungs. The compensatory power of the left auricle is trifling; in the pulmonary circuit there is none, and the right ventricle is, therefore, the first and only chamber which can afford any real help. With primary and non-progressive lesions at the mitral orifice, the right ventricle is very often able fully to meet the extra demands upon it; and the individual may be quite unaware that he has any pathological anatomy about him for a few years, for many years, or for the course of his natural existence, death finally resulting from causes in no special way connected with his heart lesion or from old age.

Let us, however, suppose, as we see so often occur in practice, that the right ventricle fails in a case, let us say, of mitral stenosis: as a result, we have, first, pulmonary congestion, with, perhaps, oedema, and then increasing stasis in the whole venous circulation, systemic and portal alike. The urine diminishes in quantity, and acquires the other characteristics of passive congestion of the kidneys; the liver swells and extends below the ribs; the gastric and intestinal mucous membrane is congested, and digestion is impaired to a greater or less degree; serous transudation takes place into the subcutaneous cellular tissue, and into the great serous sacs of the pleura and peritoneum, more rarely into the pericardium; cyanosis shows the surcharge of the blood with carbonic acid and other excrementitious matters.

As the distension of the right ventricle increases, the tricuspid valve becomes incompetent from dilatation of its ring of insertion; and we then have, in addition to the other evidences of venous stasis before enumerated, they, at the same time, perhaps, reaching a higher degree, a systolic reflux of blood through the right auricle into the caval and tributary veins, as far as their valves. The liver then pulsates synchronously with the heart, and the jugulars are distended, their valves standing out prominently, or even pulsate, according to the seat of the valves, and whether they remain sufficient or not. To complete the picture of a high degree of over-distension and incompetency of the right ventricle, gradual in onset, we have only to allude to the dyspnoea, the lividity, the frequent somnolency from carbonic-acid poisoning, the coldness of the extremities, the nose and ears, and to the feebleness of the pulse, which is often also irregular and intermittent. One source of danger must also be alluded to, though its existence must usually be a matter of inference, rather than of direct observation: I refer to thrombosis of the auricles and their appendages, especially of the right, whence arterial emboli may be derived.

<sup>1</sup> Read before the Boston Society for Medical Improvement, March 28, 1887.

<sup>2</sup> Edinburgh Medical Journal, July, 1868.

The above-sketched state of things is not compatible with long or comfortable existence. In most cases it is impossible to remove the cause, and thus bring about permanent relief. The cause lies in structural changes, generally of the valves of the heart, which cannot be made good. Our efforts must, consequently, be directed toward establishing or restoring the compensation, that is to say, toward enabling the right ventricle to meet the demands upon it. This is to be done by either stimulating its power, or by lessening the demands, or by both at once. In the earlier and milder grades of muscular incompetency, when the congestion of the portal system is absent or slight and digestion remains good, stimulation by heart tonics, combined with some moderation in the demand for heart power — rest and diet, with, perhaps, purgation — work to a charm. A proper balance of the circulation is struck anew, and everything goes on well again for a longer or shorter time. In the higher grades of the condition, however, when portal congestion is great and the digestion much impaired, the usual means of stimulating the ventricular contractions fail us, partly by reason of impaired absorption, partly of sluggishness of the nervous centres, partly of feebleness of the muscular wall. Under these circumstances, mechanical relief is what is wanted, what is imperative. If a portion of the load can be lifted from the right ventricle, it may be able to recover itself; otherwise, not. The withdrawal of fluid from the pleura or peritoneum is an indirect means of lifting a portion of the load, too indirect for extreme cases. The serum is outside of the circulation, and its withdrawal aids the circulation only by permitting greater functional activity of the abdominal organs or of the lungs, or by allowing serous transudation anew, and thus diminishing the mass of the blood in the veins. Free catharsis is another means, less indirect than aspiration, as the serum is derived immediately from the blood in the portal system. But it may be difficult to produce catharsis, on account of the failure of the gastric mucous membrane to absorb. We may wish, moreover, to avoid the fatigue incident to copious intestinal discharges, even when well managed. Direct means of lifting a portion of the load remains to us: the withdrawal of blood itself, either by venesection or by leeches. Much has been said and written of late years about the advantages of blood-letting in certain cases, but I do not think that we have yet reached, though we are approaching, the proper mid-position between the indiscriminate bleeding of sixty years ago, and the horror of bleeding which naturally succeeded.

There can be no question that, since the practice fell into desuetude, lives have been lost, and suffering has been endured, which might have been spared had blood been drawn. In the class of cases which I am considering the amount does not need to be large, as a rule. It is surprising how much relief follows the abstraction of as little as eight ounces, the right ventricle immediately recognizing the lessened demand, and the heart, as a whole, then responding to the stimulus of a cardiac tonic. The relief to the right ventricle allows improved circulation, and the nervous centres are in better condition to react to the drug which the stomach will now absorb. Active purgation is also often now desirable.

The choice as between blood-letting by venesection or leeching may be, but is not generally, vital. The

former is quicker, and, if it is desired to take a considerable quantity, then much preferable. But if eight or ten ounces are sufficient, a dozen leeches and a little poulticing will do the work, and there is less prejudice to overcome on the part of the patient and the friends. During the past year, I have employed or advised leeching in six cases of over-distended right ventricle, five in hospital, and one in private practice. These cases I will now report as briefly as possible, neglecting all features which do not have a direct bearing on the matter in hand.

CASE I. D., twenty-one years of age entered the Massachusetts General Hospital June 1, 1886 for mitral stenosis and regurgitation with ruptured compensation. Under rest and digitalis he improved at first; but became worse again, and July 1st, when I first saw him, he was suffering from orthopnea, vomiting, extreme cyanosis, cough, pain in the chest, ascites and anasarca. Jugular pulsation was well marked, the pulse was very irregular and intermittent, the temperature was sub-normal, and his condition was one of great gravity. The next day he was worse, and I ordered twelve leeches applied over the liver to be followed by tinct. *strophanthus* m.v. t.i.d.

July 3d, the record states: The leeches took hold well and the bites bled for two hours after the animals fell off. Within two hours the patient was much relieved, the cyanosis was much less, the radial pulse and the heart-beat were synchronous, which they had not been before. The vomiting had ceased entirely, the temperature was normal.

July 4th. The *strophanthus* was omitted, as the pulse had fallen to 30. From this time on the improvement, though not uninterrupted, was marked. Before the end of the month he was in the yard daily, and August 6th he was sent to the Convalescent Home, after leaving which, he reported himself once at the hospital. He still had some cardiac symptoms, of course, but was up and about.

The daily amount of urine was, July 2d, 17 oz.; 3d, 19 oz.; 4th, 28 oz.; 5th, 112 oz.; 6th, 53 oz.

CASE II. M., eleven years of age, entered the House of the Good Samaritan, May 17, 1886, for mitral disease, the result of rheumatic endocarditis the previous winter. September 10th, she was sent to the Convalescent Home connected with the institution and stayed till November 20th, when she came back. Under absolute rest, careful feeding and digitalis, she improved for a time, but grew worse again.

January 31, 1887. She was vomiting everything she took; there was marked cyanosis and some ascites, anasarca, and hydrothorax; the jugulars and the liver were pulsating distinctly; the pulse was 120-130; the daily amount of urine had fallen to  $\frac{1}{2}$ -3. Six leeches were ordered over the liver, and, with the subsequent bleeding, the amount of blood lost was estimated at  $\frac{1}{2}$  viii. Immediate relief followed; the vomiting ceased, she had a good night, the next day the venous pulsation was scarcely to be seen, and she eat a good breakfast with relish. The amount of urine rose to 10 oz. on February 1st, to 9 oz. February 2d, 10½ oz. February 3d, 123 oz. February 4th, 60 oz. February 5th.

The pulse fell on the 3d to 90. It is only fair to state that on the 2d, she was ordered tincture of *strophanthus* m.v. t.i.d. I do not doubt that this drug contributed to the diuresis and continued improvement, but from my experience with other cases I am per-

suaed that without the previous leeching it would have been useless. Since then I have pushed the strophanthus up to mvi, t.i.d., the pulse remaining at 108 all the time. There was an interval of a fortnight between the time the strophanthus was omitted and resumed.

The child is now up and dressed all day, and is steadily improving in weight and strength. I believe that her life was saved by the leeches.

CASE III. September 23, 1886, I had the pleasure of accompanying Dr. C. F. Folsom in his visit at the City Hospital, and there saw the following case, the records of which have been most kindly placed at my disposal by him. A woman, past middle age, had been for a fortnight in the hospital with mitral and aortic disease and a failing heart. She had orthopnea, great cyanosis, oedema, jugular and hepatic pulsation. I suggested leeches as a palliative, and twelve were ordered. Their application, the record states, was followed by much relief to the patient, who said she could breathe deeper. The next day she was "very comfortable." The relief was, naturally speaking, in the light of the revelations of the autopsy, only temporary. It was, however, so real, that at her request she was again leeches thrice subsequently, October 4th, 22d, and December 8th. The animals themselves were very repugnant to her, as I am informed by the house-officer, but she craved the relief which they afforded her. Early in January, 1887, she died.

The pathological diagnosis was in part as follows: Aortic insufficiency, mitral insufficiency and stenosis, relative tricuspid insufficiency; hypertrophy and dilatation of the right ventricle and both auricles; chronic adhesive pericarditis with obliteration of the sac; double hydrothorax; embolic infarction of the lungs; venous engorgement of the lungs and abdominal organs, etc.

CASE IV. A well-nourished woman of about fifty entered the House of the Good Samaritan, December 23, 1886, with dyspnea, cyanosis and dropsy, the result of mitral disease. There was also bloody expectoration which was attributed to embolic infarction of the lungs. There was great diminution in the quantity of the urine, and a feeble and very irregular pulse.

When I saw her the next day her condition was desperate, and I immediately ordered twelve leeches in the hepatic region with alcoholic stimulants. No noteworthy relief followed the leeching: the patient dying at eleven o'clock that night.

An autopsy was made sixteen hours after death by Dr. Fitz. Both ventricles, especially the right, were filled with soft clots; the right auricular appendage contained old thrombi; the heart was enlarged; the mitral valve admitted only one finger; the aortic orifice was somewhat diseased. The lungs contained several embolic infarctions of moderate size, old and recent, and were oedematous. The liver and kidneys showed chronic passive congestion. As I look back at this case I think I should have bled her from the arm. The symptoms had grown rapidly worse, and she could have well afforded twenty ounces or more of blood. The result might not have been different. The pulmonary infarction, though not very extensive, was an unfavorable factor in the case, and the auricular thrombosis was a potential source of fresh infarction. When I next meet with a case in which the symptoms are so urgent and have developed with comparative rapidity, the general nutrition of the patient

being good, I propose to bleed from the arm, on the spot, if allowed to do so.

CASE V. A gentleman, forty-five years of age, seen November 27, 1886, in consultation with Dr. A. H. Hodgdon, of Dedham, under whose care he had come that day. He had been in his room, mostly in bed, for weeks, with great dyspnea and other symptoms dependent on cardiac failure. He had taken digitalis, but in what doses was not known, as he had been under homoeopathic treatment. There was oedema of the lungs and right hydrothorax; the liver was distinctly felt two inches below the margin of the ribs; there was no anasarca or ascites. The amount and character of the urine had not yet been determined.

It was agreed that leeches should be applied, and that then elaterium and digitalis should be given.

I have not seen the patient since, but Dr. Hodgdon writes that the relief immediately following the leeches was slight, though the quantity of water increased. The day after the leeching, elaterium was given, acted well, and afforded marked relief. The patient has gained slowly but steadily ever since, but is still compelled to lead a very restricted life.

CASE VI. K., forty-seven years of age, entered the House of the Good Samaritan, November 7, 1885, with cardiac failure, dependent, apparently, on parietal, rather than valvular disease, and a urine indicating more than passive congestion. She was cyanotic and oedematous; there was some oedema of the lungs, and bloody expectoration, with pain in the chest, pointed to embolic infarction. From time to time she grew better, and then worse again.

February 6, 1886. The jugulars were pulsating; the dyspnea and cyanosis were so great, and the pulse so feeble, that twelve leeches were applied, with great temporary relief. A hydropne cathartic and digitalis were then given with success, and the patient expressed much gratitude. Before long, however, the symptoms became grave, and March 16th she died.

The autopsy was made by Dr. Fitz, whose pathological diagnosis was as follows: Chronic interstitial myocarditis; dilatation and thrombosis of the heart; thrombosis of the pulmonary artery; chronic obliterating pleurisy; chronic passive congestion of the lungs, liver, spleen, kidneys, and uterus; chronic interstitial nephritis; chronic gastro-intestinal catarrh.

This is a complete list of the cases in which I have, as yet, used leeches as a means of rapidly diminishing the blood-mass, and thus acting directly on the right ventricle. Case IV received no benefit, but my only misgiving is that enough blood was not drawn. Cases III and VI were greatly relieved for a time, but succumbed to disease, which, post-mortem examination showed, admitted of nothing more than temporary palliation. Of the other three cases, two are known to be alive; the third (I) has been lost sight of. Of these three, two (I and II) would, in my opinion, not have lived more than a few days if I had not drawn blood. Some of the impressions which one receives at the bedside are difficult to convey to others in words. The change which I saw in some of these cases from one day to the next is deeply fixed in my mind, and, I think, also in the minds of the other gentlemen, and of the nurses who were watching the cases.

In short, when the right ventricle is gorged with blood, the leading indication is often to withdraw blood from behind, alcoholic stimulants being given simultaneously by the mouth, or under the skin, as

the features of each case demand. The way is thus prepared for purging and cardiac tonics, which, without the previous relief to the circulation, are quite ineffectual in many cases. In conclusion, I wish to express my obligation to Dr. Broadbent, of London, whose article on "Mitral Stenosis," in the *American Journal of the Medical Sciences* for January, 1886, led me to give more serious thought to the procedure which I have had the honor to lay before you.

## REPORT OF PROGRESS IN ORTHOPEDIC SURGERY.

BY E. H. BRADFORD, M.D., AND R. W. LOVETT, M.D.

### LATERAL CURVATURE.

SIGFRED LEVY<sup>1</sup> holds that there are two distinct etiological factors in the production of habitual scoliosis: one, "an anomaly of nutrition," a purely organic matter; secondly, certain mechanical causes—faulty positions of standing and sitting. Neither one of the factors can cause it alone; both must be present at the same time. In support of this view, he speaks of a case which he saw, where a girl of three years had a resection of the knee, and grew up with one leg nine centimeters shorter than the other. The pelvis was always tilted, but there was no suspicion of scoliosis until she was twelve years old, when she began to have headache, pain in the side, malaise, etc., and in spite of all precautions, a typical lateral curvature rapidly developed. He has seen three other such cases; and in over a hundred cases of habitual scoliosis which he has observed, in every case symptoms of general disturbance (as in the case related above) accompanied the development of the deformity.

### CONGENITAL DISLOCATION OF THE HIP.

Motta<sup>2</sup> advocates a simple method of treatment, which, he says, gives "an immediate correction, or, at least, a decided lessening of the limp." The patient is suspended, as if a plaster-jacket were to be applied. If it is a unilateral dislocation, the shortened leg is drawn forcibly downward, and a plaster-mould of the whole side is taken, reaching from the axilla to the knee. From that a poro-plastic felt splint is made, which laces up, and is worn during the day. At night, extension is continued by a gaiter and attached weight, and the felt splint is applied in the morning, before the weight is removed. The treatment for double dislocation is simply a repetition of the same process on the other side.

### COLD ABSCESSSES.

Garré<sup>3</sup> searched very carefully for tubercle bacilli in the pus from thirty cold abscesses, from different patients, but he only found them in a very small proportion of these cases. From attempts at cultivation from the pus in the class of cases where bacilli were not present, he got negative results; but inoculations of this pus in animals gave a typical tuberculosis, with many bacilli, and led to the inference that tubercle spores must have been present in the original abscesses. From this, Garré concludes that the conditions necessary for the development of tubercle bacilli from their spores exist only in the living organism.

<sup>1</sup> Sigfred Levy. *Ugeskrift for Læger*, October, 1886.

<sup>2</sup> Margary Motta. *Estirato dal Giornale della R. Acad. di Med.*, t. 1886, numeri 7-8.

<sup>3</sup> Deutsche Med. Wochenschrift, 1886, No. 4.

### DEFORMITIES AND ARRESTED GROWTH.

Nicoladoni<sup>4</sup> describes a case of manus vara and a case of manus valga, where the deformity was due to an injury of the epiphysis of the radius in one case, and of the ulna in the other, and a consequent arrest of growth. He then relates the case of a young man who received an injury of his knee-joint, and where, for nine years, the knee had been flexing more and more, by degrees. This thigh was ten centimeters shorter than the other, and his leg nine centimeters shorter. Two similar cases of Billroth's are related, and all are considered due to premature synostosis of the lower epiphysis of the femur, consequent upon injury. The reviewer of Nicoladoni's article, Roser, says that in all three cases there was a latent tuberculosis, and a consequent fixation in slight flexion, which was increased by walking about on the leg. Nicoladoni next considers the asymmetry of the head in torticollis. It affects only the upper jaw and base of the skull, while the lower jaw and vault of the skull are alike on the two sides, and he shows that it is a deformity due to the unequally disposed weight of the head. The scoliosis accompanying torticollis is purely the result of holding the head sidewise, a compensation entirely mechanical. He closes by giving an account of the examination of the vertebral column from a case of rachitic lateral curvature, where ossification had gone much further in the parts of the vertebrae on the convex side of the curve.

### TRACTION IN CLUB-FOOT.

The most important article for some time on the subject is furnished by Shaffer,<sup>5</sup> who writes of the use of traction, and describes the two shoes which he uses for this treatment. The two shoes are the outgrowth of the antero-posterior traction-shoe, and the simple, lateral pushing-shoe already described by him. The principle involved is as follows: The centre of motion in flexion and extension of the foot is not at the ankle-joint, but just below it. Therefore, in passing from extension to flexion of the foot, the heel rotates downward and forward, the toe upward and forward, and the astragalus upward. In short, the heel rotates downward, and the neck of the astragalus upward, around the transverse centre of antero-posterior motion at the ankle-joint. In criticism of the conventional forms of apparatus, he says: "The point at which the retaining force or counter-pressure is made (the neck of the astragalus) must also rotate around the pivotal point." When, therefore, motion is attempted with this apparatus under these conditions, the foot cannot follow the mechanical law of antero-posterior motion, and the heel cannot be carried downward and forward. The antero-posterior traction-shoe (for talipes equinus) consists of a calf band and two uprights, with a heel-cup and sole-plate. Antero-posterior motion of the shoe can be obtained at the ankle by an endless worm and screw moving the whole foot-piece, and controlled by a key. At a place corresponding to the medio-tarsal joint, the sole-plate is divided transversely, and the two parts, anterior and posterior, are connected by a traction-rod, with ratchets, worked by a key under the heel-cup. Two webbing straps are applied to the foot: one over the astragalus, and one around the heel. They cross each other, and the ends of the former are fastened to the

<sup>4</sup> Centralblatt für Klin. Chir., No. 10, 1887, p. 181.

<sup>5</sup> N. M. Shaffer. *New York Medical Journal*, March 5 and 12, 1887.

heel-cup, and the heel traction-straps are carried forward to the anterior end of the shoe, and buckled. The ankle-joint of the shoe is set to fit the deformity, and, by tightening the straps, the foot is pulled down on to the shoe. Then loosen the strap over the head of the astragalus, to allow it to rotate. By the key, the foot is brought to a right angle. Then the forward part of the sole-plate is separated from the other; it pulls on the heel traction-strap, and the heel is pulled irresistibly downward and forward. Shaffer states that a temporary gain of one-eighth to one-fourth of an inch in the length of the foot is not unusual after a single treatment of fifteen minutes.

The lateral traction-shoe is to be used for talipes varus and varo-equinus. The motion in the antero-posterior direction at the ankle is the same as in the other shoe, and there are two other entirely distinct motions: one an eversion of the whole foot-piece by a hinged lever and screw, just below the ankle; and the other a revolution outward of the anterior part of the sole-plate, with a point of motion for this revolution at the junction of the os calcis and cuboid. The foot is held by a raised inner border to the sole-plate. Any detailed description of the apparatus would be unintelligible without figures. The shoe is set to fit the deformity, and applied; and then, by the keys, the foot is brought into a more correct position. This shoe is worn, most of the time, with very gentle traction applied; and exaggerated traction is applied (as much as can be borne), at intervals of an hour. Shaffer states that certain cases do not yield readily, but, even after tenotomy, the shoes are very useful.

#### RESECTION OF THE TARSUS IN CLUB-FOOT.

Krauss<sup>6</sup> formulates the objections against tarsal resection as a means of treatment for inveterate club-foot as follows: (1) The different methods of resection of the tarsus impair the form of the foot and the stability of its osseous arch, with a consequent impairment of mobility and usefulness. (2) Resection, as an operation, is not free from risk. (3) The extirpation of the astragalus is a more suitable operation for restoring the form of the foot than the removal of a wedge in the direction of the medio-tarsal joint; but it leaves an immovable ankle, or one partly so, a weak union between the os calcis and the second row of tarsal bones, and serious shortening of the foot. (4) Resection removes all chance of future restoration by orthopedic treatment. (5) "There is no conceivable form of club-foot in which tarsal resection is justifiable, except it be in the case of one that is persistently painful in an old subject, and in which there is no prospect of a good result from orthopedic treatment. In such a case resection may be fairly tried, instead of amputation."

#### CLUB-FOOT.

Churchill<sup>7</sup> speaks of the necessity of early treatment, and describes a new form of retentive apparatus, which differs but little from the ordinary plaster-bandage, except in being somewhat more complicated. He manipulates the foot, and renders it as flexible as possible. Then a flannel bandage is wound on quite firmly, and carried up the leg. Some strips of broad webbing are then put around the forward part of the foot, to protect it, and a strip of perforated tin, bent at a right angle, is used on the outside of the leg as a

stirrup, to hold the foot in its corrected position. Plaster-of-Paris is then put on outside. It is difficult to see what advantage the method has over the ordinary plaster roller applied to the foot held in an approximately correct position. Mr. Churchill advocates the view that intra-uterine pressure is, in some way or other, the cause of the deformity. Of the bones, tendons, ligaments, and fasciæ, he says: "Each become subject to the contractile force of the involved muscles in their relative proportions"; and it is this that he means when he speaks of the "multiple causation of club-foot."

#### FLAT-FOOT.

Mr. Collier<sup>8</sup> takes issue with the views expressed by Humphreys<sup>9</sup> as to the causation of flat-foot. He says that the astragalus is not the keystone of the arch of the foot, for it does not transmit equally to both extremities of the arch the weight of the body in standing. Only a small part of the body-weight is transmitted through it, comparatively speaking, and most of the weight goes to the os calcis, and through it to the ground. The plantar fascia and ligaments, with tendons assisting, maintain the normal position of the os calcis. Ligaments will atrophy and stretch when they are overstrained; but they do not grow weak and then stretch, so that the cause cannot be want of tone in the ligaments. The flattening is due to an antecedent alteration in the position of the os calcis, which comes about in this way: As long as the foot rests on a horizontal surface, the os calcis is capable of supporting the astragalus and any reasonable weight without the intervention of any ligaments (as shown by some experiments mentioned). But if the heel is raised, the body-weight is not transmitted so directly through the os calcis, but the astragalus slides forward on the os calcis, and throws the weight of the body on to the calcaneo scaphoid, interosseous, and plantar ligaments. Atrophy and stretching of these ligaments follow. That the affection is more common in girls than in boys, and in the upper classes more than the lower, is due to the wearing of heels. The treatment is the removal of the heel of the shoe. As to a pad along the inside border of the foot, it is comfortable, because it helps support the anterior extremity of the os calcis; but it compresses the internal plantar nerve, and should never be used. As much rest as possible should be taken, and the front part of the sole should be raised. In fact, the heel should be worn in front, instead of behind.

To this Ellis<sup>10</sup> replies in a short letter, objecting to the following points: That the astragalus does not move forward, when the heel is raised, so much as downward and inward. That the deformity is not diminished in the bare-footed patient by raising the toes, but that when the heels are raised, and the patient stands on tip-toe, that the deformity disappears. He therefore recommends that the patient be directed to perform this exercise of rising on the toes daily; that the feet be inverted during sleep by some simple appliance; and that a springy walk be cultivated, the patient keeping the heels off of the ground as much as possible.

#### A PAINFUL AFFECTION OF THE FOOT.

Morton<sup>11</sup> describes an affection characterized by in-

<sup>8</sup> Lancet, 1886, II, 441.

<sup>9</sup> Lancet, 1886, I, 329.

<sup>10</sup> Lancet, 1886, II, 604.

<sup>11</sup> Philadelphia Medical Times, October 2, 1886.

<sup>6</sup> Krauss. Fifteenth Congress of the German Surgical Society.

<sup>7</sup> Brit. Med. Journal, November 27, 1886, p. 1025.

tense pain, referable to the head of one of the metatarsals, usually the fourth, consequent on a strain or twist of the foot. It seems to be a neuralgia of one of the internal plantar nerves, which are liable to be compressed, and even pinched, by a sudden twist of the anterior part of the foot, by virtue of their position. The treatment should be local depletion, anodynes, rest, and a broad-soled shoe. A flannel bandage, tightly compressing and holding firm the anterior part of the foot, generally gives perfect relief, but sometimes the affection is so severe that excision is necessary.

#### CLUB-FOOT.

German surgeons do not look with very much favor upon Phelps's method of treating club-foot by a transverse incision to the bone across the sole. Philippson<sup>12</sup> discusses it at length; after speaking of the methods of Wolff, Lorenzo, and others in the treatment of inveterate talipes barus, he quotes Wolff as saying that the operation of Phelps is a rough and unjustifiable cutting through the moderately thick soft parts with all the contained muscles, nerves and vessels. Philippson, himself, regards it in the same light. In the first place, purely orthopaedic treatment will often suffice to effect a cure in such cases. Then the operation needs many assistants and cannot therefore become very popular. Moreover, it is not complete treatment, it is only preliminary and is succeeded by a most painful convalescence. Cutting the soft parts and roughly wrenching the foot into place also tends to dislocate the deformed bones, to destroy the existing tarsal joints. On these grounds he opposes the operation very strongly.

#### RESECTION OF THE ANKLE.<sup>13</sup>

The methods of Kocher, in use by him since 1883, is as follows: The foot is held at a right angle and a superficial incision is made along the outer border just below the external malleolus reaching from the tendo achillis to the extensor tendons. The peroneal tendons are dissected out, secured by sutures, and then cut by a second and deeper incision. The ankle-joint is opened very easily and the capsule along the anterior and posterior surfaces of the tibia is cut. The foot is then dislocated inward as far as is desired, and the joint can be inspected to any extent. After the diseased parts have been removed, the foot is reduced to its proper position, the peroneal tendons united and the wound closed. The operation differs from that of Reverdin in not cutting the tendo Achillis and in preserving the peroneal tendons. Five cases with very good results are related.

#### RESECTION OF THE KNEE.

Lucas Champouñère<sup>14</sup> speaks of the resection of the knee and advances rather radical views in certain points. Suppuration after operation, he considers an evidence of failure, and unless it is extremely limited, as an imperative indication for amputation. He reports a series of eleven cases, in adults, all of which recovered. All, except one, were for tubercular arthritis; nine got well without any suppuration; one had very slight pus formation, and the other had so much suppuration as to necessitate amputation. The patients walked one to two months after opera-

tion. He does not recommend the operation for children, as it interferes so much with the growth of the limb, nor does he consider tuberculosis of the lungs in a reasonably early stage as a necessary bar to operation.

#### PARALYTIC CLUB-FOOT.

Lesser<sup>15</sup> reports the examination of a paralytic club-foot, operated on by him seven years before. The object aimed at was to secure after correction an ankylo-sis of the ankle joint (by operative means) with the foot in a corrected position, enabling the patient to walk without the use of appliances and without danger of relapse. This method was described<sup>16</sup> and has been repeated by Rydygier, with satisfactory results in two cases.

Lesser's patient was able to walk about freely without apparatus or cane, and could stand, with slight help, some little time on the left foot alone. The ankle was ankylosed, but there was an increased amount of motion at the Chopart articulation. The patient walked well on the flat of the foot.

#### RESECTION OF THE KNEE IN CHILDREN.

Peterson<sup>17</sup> reports the case of a young man who died five years after an excision of the knee, and whose skeleton was very carefully measured to ascertain the growth of the affected leg subsequent to operation. He was operated on by Esmarch in 1880, when he was eleven years old, and he had at that time three cm. shortening of the leg; an ordinary intra-epiphyseal operation was done. The wound healed, and in five weeks he was about again. Five years later his leg was still useless although the knee was ankylosed in good position. He had sixteen cm. shortening, and desired amputation, which was done, and he died of fatty degeneration of the liver. The bone shortening proved to be thirteen and one-half cm. The left femur was eight and one-half shorter than the right and the left tibia five cm. shorter. It was found that if the upper and lower halves of each tibia were measured separately that the difference in the length of the upper halves was two cm., while that of the lower was three cm. The nutritive foramen was taken as the dividing line. That is, the shortening was not due so much to destruction of the epiphysis as to an arrest of growth of the whole leg. The femur showed the same point.

He concludes that resection is far from preventing atrophy and very serious shortening; and in children he considers the advisability of the operation to be still an open question.

#### JOINT RESECTION AND GENERAL TUBERCULOSIS.

Wartmann<sup>18</sup> has investigated the results in seventy-four cases of excision for tubercular arthritis in the Hospital at St. Gallen; eleven died, and of these, two died of "operative tubercular infection," as Wartmann calls it. In further statistics he found that of 837 resections (and secondary amputations) 225 died, of whom twenty-six had acute general military tuberculosis, whose outbreak came so soon after operation as to suggest very strongly a causal relation.

Pilcher,<sup>19</sup> on the other hand, discussing more especially the effects of such resections on patients with

<sup>12</sup> Centralblatt f. Chirurgie, No. 46, 1887, p. 797.

<sup>13</sup> Centralblatt f. Chirurgie, 1878, No. 31, p. 497.

<sup>14</sup> Arch. f. Klin. Chir., Bd. xxiv, 2, 445.

<sup>15</sup> Cent. f. Chir. 4, 1887, p. 18.

<sup>16</sup> New York Medical Journal, xlv, p. 671.

<sup>17</sup> Deutsch. Zeitsch. f. Chir., Bd. xxv, Hft. III.

<sup>18</sup> Arch. f. Klin. Chir., Bd. xxiv, Hft. 2, s. 318.

<sup>19</sup> Revue de Chirurgie, January, 1887.

lung tuberculosis, concludes: that when a lung tuberculosis is present, and an operation for the relief of a coexistent bone or joint affection is indicated, as the result of such an operation, the lung affection, while in some cases uninfluenced, is more frequently checked in its progress, and sometimes is apparently entirely recovered from." That local relapse is conditional on incomplete operation; and that where doubt exists as to the possibility of the removal of all the diseased tissue by the more conservative methods of arthrectomy or excision, the coexistence of lung tuberculosis would add weight in favor of doing amputation.

#### POTT'S DISEASE.

Neidert<sup>20</sup> has investigated the cause of death in patients with angular deformities of the spine, the result of Pott's disease which has been cured. Patients with severe deformities die of heart fatigue ordinarily, patients with medium-sized curvatures die oftenest of phthisis, and die young, while those with small deformities have nearly as good a prospect of long life as men with normal spines. These results were obtained from the investigation of thirty-one specimens in the Munich Pathological Institute. The average age of the patients at the time of death was forty-nine and one-half years. Twenty-four had hypertrophy, with or without dilatation, of the right side of the heart, four had muscular degeneration of the heart walls, and two had stenosis of the mitral valve, one showed acute miliary tuberculosis, eight died of phthisis, four of pneumonia, and one of carbuncle.

Lannelongue,<sup>21</sup> speaking of narrowing of the aorta in Pott's disease, says that in his autopsies he has noted that a very marked narrowing of the calibre of the aorta was not uncommon. In one specimen the aorta only measured sixteen mm. before the origin of the brachiocephalic trunk; twelve mm. after the carotids had been given off, and only eight mm. in the region of the second lumbar vertebra. In another specimen the lumen of the aorta was reduced to a mere slit. These changes are consequent upon the abnormal curves given to the vessels, and their existence explains the production of certain rapid and peculiar paralyses which come on in spinal caries and which are not due to compression of the cord.

H. L. Taylor<sup>22</sup> gives nine cases where recession of the deformity has taken place under treatment by the Taylor back-brace. He states, first, that "the average ultimate result in Dr. C. Fayette Taylor's private practice, using his antero-posterior leverage supporting and protective apparatus, thoroughly and for a sufficient length of time, has been, under favoring conditions of attendance and home attention, the definite arrest of the deformity at, or near the point it had reached before such protection was furnished." In certain cases, however, he notes that the deformity will increase in spite of all care.

The straightening of the curved back to which he refers, is not merely the obliteration of the compensatory curves, but a real diminution or disappearance of the angular projection. The cuts that accompany his article show that plainly enough.

Of the nine cases, one was dorsal disease, three were dorso-lumbar, five were lumbar entirely. In five, the knuckle completely disappeared, while in the others the improvement was very marked. The

time for disappearance ranged from three to ten years after the beginning of treatment. The case of dorsal disease recovered wholly. The cases are given in full in the article.

Noble Smith<sup>23</sup> calls attention to the frequency with which Pott's disease is overlooked by the medical man, and tells of some remarkable specimens to be found in the London Hospitals, where extensive destruction of the vertebrae had taken place, and yet when the symptoms during life had been most insignificant. Notably, that of Dean Buckland, whose symptoms were those of "melancholia" where after death there was found extensive caries of the first three cervical vertebrae. Mr. Smith mentions the affections for which spinal caries is commonly mistaken and gives the differential diagnosis.

#### OSTEOCLASIS.

Pousson<sup>24</sup> has written a very complete treatise on osteoclasia. After giving a history of the development of the operation he classifies present methods as follows:

By vertical pressure, manual or instrumental; by flexion, manual or instrumental; by traction in the axis of the limb, manual or instrumental; by torsion, manual.

Under these headings he classifies all osteoclasts and all methods, and describes especially the apparatus of Robin and the old and new osteoclasts of Collin. Aysaguer's experiments in manual osteoclasia are summarized. In children two years old the fracture is generally incomplete, above four or five years there is ordinarily true fracture, always simple, and rupture of the periosteum. Di Santi experimented on subjects from eighteen to twenty-two years old; in twelve there was no epiphyseal separation, but nine times there was found rupture or detachment of the lateral ligaments, and twice a bit of condyle torn away with them, while once the whole condyle was torn away, making a fracture into the joint.

Pousson discusses osteotomy, which he treats most unfairly, and advocates osteoclasia very strongly for the correction of rachitic curves. So good is the apparatus of Collin that Delens and Demons, formerly advocates of osteotomy, have abandoned it for osteoclasia. He reports thirty-six osteoclasts for ankylosis of which eighteen were of the hip and fourteen of the knee. The results were classed as perfect in twenty-four, satisfactory in three, tolerably satisfactory in one, and bad in two; four were unclassified. In no case was there a relapse to the former condition.

#### BONE GRAFTING.

Poncet<sup>25</sup> has had a notably successful case of bone restoration in a child eleven years old, whose entire tibia for thirty cm. was lost by necrosis. Small pieces of bone were taken from the tibial epiphysis of a new-born child, and of eight grafts, five remained and grew. Nine other grafts were then taken from a young goat and of these, three remained. In six months after the operation of sequestrotomy the child had a tibia only three cm. shorter than the one on the other side, composed of hard, firm, healthy bone. Poncet lays down the following rules: the fragments to be used should not be larger than ten mm. long,

<sup>20</sup> Neidert. Dissertation, München, 1886. p. 1159.

<sup>21</sup> Alfred Pousson. Osteoclasia, Paris, 1886. Review in Annals of Surgery, October, 1886.

<sup>22</sup> Poncet. Cent. J. Chir., 1887, No. 4. Cf. McEwen. Proc. Royal Soc., 1881, p. 213.

<sup>23</sup> Neidert. Dissertation, München, 1886.

<sup>24</sup> Société de Chirurgie. Revue de Chir., August 10, 1886, 671.

<sup>25</sup> H. L. Taylor. New York Med. Record, January 8, 1887.

and four mm. thick. They should be taken from places where ossification is most active, and the best time for grafting is immediately after the removal of the sequestrum. Perfect rest and asepsis are of the greatest importance in the after-treatment.

#### RACHITIS.

Kassowitz<sup>26</sup> publishes very extended studies upon 5000 cases of rachitis observed by him. Genu valgum and flat-foot from standing, are so essentially rachitic that he would treat the latter at least by phosphorus from the start. As to the muscular weakness of rachitic children, he says that on account of having pain in the joints on movement such children learn to sit up and to walk very late, and that the muscular atrophy found is that of inactivity. He holds it very probable that most of the crooked thighs and tibiae are due to the tonic action of the muscles primarily, and that the body-weight only serves to increase the bend when the child begins to stand and walk. As to fractures in rachitic bones: when found they lie on the convex side of the bend almost always, and are deep, often involving half the circumference of the bone and showing a sharp angular nicking of the bone. If the bone is broken wholly across, the periosteum is apt to remain intact. Callus formation is slow, but pseudarthroses are rare. In these 5000 cases there were noted ninety-nine fractures, and in the long bones the crack seemed almost always to be in front or in front and outside. In conclusion, he says: "It appears surely established that the deformities of the joints, even those occasioned by standing, are not brought about by inequalities of growth, but solely and alone by compression and bending of the weakened bone and cartilage layers and by the consequent alterations in the position of the bones at the joints."

Toeplitz<sup>27</sup> does not agree with Kassowitz as to the time of beginning of rachitis. In his cases only about twenty-five per cent. of the cases showed traces of bone rachitis in the first three months. Toeplitz has treated 518 cases with phosphorus in the last two and three-quarters years. His dose is two-thirds of a milligramme to a milligramme morning and night. Treatment lasted from four weeks to ten months, but in very many cases improvement was clearly to be seen in two or three weeks, especially in the general condition of the patient. Craniotabes, laryngeal spasm, delayed dentition, all yielded readily to this treatment in a few weeks, and all the symptoms disappeared more readily than under other treatment. Bad effects from the treatment, such as dyspepsia and diarrhoea, were not seen in any cases.

#### RUPTURE OF THE SYNOVIAL MEMBRANE OF THE KNEE.

After a severe attack of articular rheumatism, of gonorrhoeal origin, the patient, reported by Ponvost,<sup>28</sup> presented a large effusion into the knee-joint, which improved somewhat under treatment, but which increased on the patient's attempt to walk. After a sudden movement in bed, the patient felt a severe pain in the knee and thigh, and on examination the swollen knee was found to be normal in size, and free from pain, but there was an increase in the circumference of the upper part of the thigh. Compression was applied and no return of the swelling took place. The

patient stated that a similar accident happened to the same knee eight years before.

#### RESECTION OF THE JOINTS FOR ANCHYLOSIS IN FAULTY POSITIONS.

Köl liker<sup>29</sup> reports several cases; among them were four operations on the hip and two on the knee. He modifies the typical operations to suit each case. For the common deformity of the hip, adduction and flexion, he uses Langenbeck's posterior incision, while in the knee he prefers the curved transverse incision below the patella. The after-treatment is the same as in typical resections. The results were good in all cases.

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<sup>29</sup> Köl liker. *Deutsch. Zeitsch. für Chir.*, Bd. xxiv, 591.

<sup>26</sup> *Cent. für Chir.*, 1887, No. 10, p. 179.

<sup>27</sup> *Cent. für Chir.*, 1887, No. 10, p. 180.

<sup>28</sup> *France Medicale*, 1886, T. II, No. 85.

## Clinical Memorandum.

### MENTAL DISTURBANCES FOLLOWING THE CESSATION OR DIMINUTION OF EPILEPTIC ATTACKS UNDER TREATMENT.<sup>1</sup>

BY L. W. BAKER, M.D., BALDWINVILLE, MASS.

OCCASIONALLY cases of epilepsy are met with in which the cessation of convulsive attacks is followed by more or less mental disturbance. When this event occurs it is generally regarded as due to the medicine taken, which is consequently discontinued with the result of the continuance of the attacks with their accustomed frequency. In those patients exhibiting this condition which have come under my observation, a different view has been taken, as illustrated by the following cases.

A young gentleman, eighteen years of age, having several severe convulsions daily, was sent to me with the request that I abstain from the use of the bromides in treating him, as previous attempts in the use of these remedies had caused insanity. After watching the case carefully for several days, I decided to resume the bromide in doses of about fifty grains daily, at least temporarily. The convulsions at once ceased and have not since returned for a period of nearly three years. Mental excitement, however, soon appeared, accompanied by sleeplessness, and by the most violent exhibitions of temper, and intolerance of any attempts of control, the slightest cause being sufficient to excite a paroxysm of noisy rage, although no delusions were present. Notwithstanding the mental disturbance the original plan of treatment was steadily followed, combined with treatment intended to allay the mental excitement. A few months' perseverance in this line accomplished the desired result and his mind gradually returned to its normal condition. He always has been and always will be, feeble-minded, but there has since been no tendency to any mental convulsion.

Another case was a young lady who was sent to me from New Jersey. On her arrival she was maniacal, had various delusions and was quite difficult to manage. She was then undoubtedly in a state of bromism, which for a time gradually grew worse. This patient has now been under my care for over a year and during this time the bromide treatment has once or twice been suspended for varying intervals of time with the immediate effect of increasing the frequency of the attacks, while the mental condition materially improved. A return to treatment intended to allay the convulsive tendency was always followed by a return of the mental disturbances, although with lessened severity, still, this latter plan has been patiently followed for several months in connection with nerve tonics, nourishing food, and out-door exercise, with the result of a great improvement in the mental condition and a lessened frequency of the convulsive seizures.

Another patient, a young lady of twenty-five, had for years a weekly convulsion, preceded for hours by an indescribable dreamy feeling. These attacks were at once almost entirely controlled by treatment, but considerable mental confusion soon supervened and she was unable to perform mental acts which had previously given her no trouble; she could not read with

comfort, could not write connectedly, and the peculiar aura instead of being paroxysmal was constantly present.

The anti-convulsive treatment was, however, continued, notwithstanding these symptoms, and she has completely regained her normal mental condition and is now better than she has been for years.

These examples, are, I think, sufficient to illustrate the statement, that anti-convulsive treatment should not be too readily abandoned when mental disturbances follow the cessation of convulsive seizures. In these cases the brain has become accustomed to excessive discharges of nerve force, which occasion muscular convulsions; when this tendency is controlled by treatment the equilibrium of the nervous centers is for a time destroyed, the discharge then becomes mental, rather than motor, and there ensues a convulsion of ideas instead of a convulsion of muscles. If the anti-epileptic treatment is combined with cod-liver oil, phosphorus, and other nerve tonics, the brain will, I think, gradually return to the condition in which it was before the attacks were controlled.

Of course, in these cases it is important to distinguish between this condition and that which is occasionally produced by large doses of bromide of potassium, but in the majority of instances, I think it will be found that the mental disturbance is due to the cessation of convulsive attacks rather than to the effects of the drug. In the cases above quoted only comparatively small doses of bromide were used, the average dose being about forty-five grains daily.

Many of these patients, however, will need to be removed from home and treated apart from other patients. They should not be sent to an insane asylum, if possible to avoid it.

## New Instruments.

### A NEW APPARATUS FOR PREPARING DRY GYPSUM BANDAGES.<sup>1</sup>

BY H. AUGUSTUS WILSON, M.D.

ROLLING the dry plaster-of-Paris bandages by hand, the method usually in use, is unsatisfactory, and under the most favorable circumstances a dirty process. It was to avoid the inconveniences and irregularities of that method that I devised this apparatus, which I have had made by A. G. Gefvert, the orthopedic apparatus manufacturer.

It consists of an ordinary box-bandage roller, with the addition of the following: A movable bottom, A, A, A, held in contact with the outermost layer of the bandage, as it is rolled, by a rubber band, B, and at the other end by a hinge-joint C. Upon this movable bottom, and just in front of the crank, is a flood-gate or distributor, not shown in the illustration, which equalizes the distribution of the plaster and presses it into the bandage from above, while the movable bottom prevents the gypsum from passing through the meshes. The proper tension is applied by two rubber bands.

A hopper, E, is provided with an arm, F, bent in such a manner as to be raised by the crank at each half turn, and upon being released, it falls, throwing

<sup>1</sup> Extract from a paper on "Mental Epilepsy," read before the New York Medico-Legal Society, December 8, 1887.

<sup>1</sup> Read before the Philadelphia County Medical Society, State Medical Meeting, February 9, 1887.



down a quantity of the powder upon the bandage in front of the distributor. A compartment, H, H, H, occupying the otherwise waste space under the movable bottom, is utilized as a receptacle in which may be kept the gypsum when the apparatus is not in use.

A scoop accompanies the apparatus with which to take gypsum from the compartment and fill the hopper. The entire affair can be securely held to a table by a clamp, K. Elastic bands are used for springs, because they are inexpensive and can be very readily replaced when worn out.

The method of using is, first to pass the end of the bandage to be rolled over the movable bottom, under the distributor, and attach to the crank. The hopper is now to be placed in position and, by means of the scoop, filled with a sufficient quantity of gypsum. While the crank is turned with the right hand the left guides the bandage, which may be watched, over the hopper, as it is being rolled.

The bent arm of the hopper is so arranged that the fall of the hopper may be sudden or gradual, and upon this depends the quantity of powder discharged. When the crank is turned very slowly the hopper is raised slowly and descends with the motion of the crank, and scarcely any gypsum is precipitated, and, of course, the converse follows. This being clearly understood, a very slight experience will enable any one to control the action of the hopper with the crank.

When a bandage is finished, the crank is withdrawn sufficiently to disengage it from the bent arm of the hopper, and while the left hand holds the bandage, a quick reverse turn of the crank enables it to be easily withdrawn. The gypsum remaining on the movable bottom is now discharged into the compartment by placing the hopper to one side, detaching the spring, B, and raising that end.

The apparatus is applicable to the rolling of the ordinary surgical bandage by detaching the rubber spring, B, thus allowing the movable bottom to drop out of the way. It prepares the dry gypsum bandages evenly and quickly. It is very simple in its construction and action. It cannot get out of order, except by the breaking of the rubber bands. It is inexpensive.

Possessing these advantages, I hope it will be of service and facilitate the preparation of the dry gypsum bandages in the hands of other physicians as it undoubtedly has in mine.

—The Medical Society of Athens celebrated its semi-centennial anniversary April 3d and 4th, by a congress of Greek physicians.

## Reports of Societies.

### BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. DUCKINGHAM, M.D., SECRETARY.

MARCH 28, 1887, the President, DR. O. F. WADSWORTH in the chair.

DR. G. H. LYMAN reported a case of

#### ANEURISM OF THE INNOMINATE ARTERY.<sup>1</sup>

DR. G. W. GAY, who was unable to be present, sent the following, which was read by Dr. Lyman.

Dr. Gay wished to call particular attention to the method of tying the arteries in this case. It was suggested to him three or four years ago by the failure of a case of a single ligature applied to the femoral artery. By applying two ligatures to the vessel, and thus cutting it completely across, we follow one of Nature's most important laws; we thereby allow the divided ends of the artery to retract within the sheath, and thus remove all tension upon the vessel. This process is one of Nature's hamastatics, and a very important one. Unless the vessel is divided in this way every motion of the part during convalescence is liable to destroy the adhesions, and give rise to secondary hemorrhage.

While this method of tying arteries is an old one, yet it has received little attention in the text-books. When a large artery is wounded we are very properly told to apply a ligature above and below the wound. Having done that, why not divide the artery completely? It would seem to be the only sensible thing to do, and I would strongly urge this method of tying arteries in their continuity, upon the profession.

DR. G. B. SHATTUCK, who had succeeded to the charge of the patient at the close of Dr. Lyman's term of service, said the case illustrates the great difference in patients. With many it would have been simply impossible to carry out the treatment as detailed. This must be irksome enough, even where the patient has the advantage of a window with a good outlook and with friends to amuse him with reading and conversation. In a hospital ward the tediousness must be increased. This was a man of intelligence and with self-control unusual in any walk of life. It was possible to keep him in absolute rest and on limited diet for a long period. Some patients are not susceptible of benefit from the treatment, but whether susceptible or not, it is simply impossible with many people.

The speaker did not know whether Dr. Lyman thought that the attack of eighteen months before was indicative of aneurism or not, probably it was, and it seems fair to assume that the lesion existed at least that long before entering the hospital. Adding to this, the part of his life subsequent to admission, gives a total duration of disease of nearly three years. Inasmuch as fifty per cent. of these cases die within a year and seventy-five per cent. within two years, it must therefore be assumed that his life was prolonged by treatment. Diet was not restricted entirely to the limits recommended by Tuffnell, of ten ounces of solids and eight ounces of liquid in the twenty four hours.

DR. LYMAN said that the use of iodide of potassium

<sup>1</sup> See page 303 of the Journal.

is supposed to further the deposit of fibrinous layers. It has been used in aneurism and offers some hope of success. Pressure offers a hope of relief, at least, if of not even better results. In this case no effects were seen of pressure upon the recurrent laryngeal until within the last forty-eight hours. Dr. Lyman further said that when Dr. Gay cut through the artery as described in his note, that it was very noticeable to what extent retraction took place.

DR. E. H. BRADFORD said that he remembered seeing the patient in the hospital, although not in his service. He knew that the question of tying the carotid and the subclavian at one operation had been considered at the time.

DR. C. B. PORTER said that not having heard the whole discussion, he should not wish to be considered as reflecting at all upon the treatment of this case, for which undoubtedly there was a good reason. Upon general surgical principles it would seem better to tie both the carotid and the subclavian at one operation, inasmuch as the aneurism included both, remembering also that collateral circulation may be established in a very short time.

[The reason for not tying both vessels at the first operation was that the shock would be very great; and that the operation of tying the subclavian would be prolonged from the fact that it could not be felt, and that the pulse was very much weaker than upon the opposite side, showing marked diminution in the calibre of the vessel. The slight amount of disturbance that followed the application of ligatures in the above method would lead me to tie both vessels at one time under similar circumstances in the future. G. W. G.]

DR. F. C. SHATTUCK read a paper entitled,

SIX CASES OF OVER-DISTENSION OF THE RIGHT VENTRICLE TREATED WITH LEECHES.<sup>2</sup>

DR. C. E. STEDMAN inquired if leeches were applied over the liver rather than over the heart for any reason other than convenience.

DR. SHATTUCK replied that it was only for convenience.

DR. STEDMAN asked if in case leeches did not bite well, would the reader bleed from the arm, rather than wait.

DR. SHATTUCK said that he would.

DR. STEDMAN said that that was his idea also.

DR. F. C. SHATTUCK reminded the Society that Dr. Westbrook, of New York, had under similar circumstances aspirated the right auricle with very speedy relief in two cases which had been published and in which resulted from the operation no bad symptoms. The same gentleman had, however, recently had a death from leakage at the point of puncture, so that he will probably not repeat the operation.

NECROSIS OF THE PETROUS BONE. REMOVAL OF A SEQUESTERUM CONTAINING THE VESTIBULE AND SEMI-CIRCULAR CANALS.

DR. J. ORNE GREEN showed the specimen, which consisted of a sequesterum five-eighths of an inch long and three-eighths of an inch wide, and which showed distinctly the osseous vestibule and remnants of the three semi-circular canals. The patient, a child aged two and a half years, ill-nourished and with caries of the dorsal vertebrae, had shown an otorrhea on the

left side for some two years, to which no attention had been paid, and within a few months paralysis of the left facial had developed. The meatus was filled with a large polypoid growth, behind which bare bone could be felt over a surface at least half an inch long and a quarter of an inch wide, and palpation with a probe showed a sequesterum slightly moveable, but too large to be removed through the meatus, and too deep to be broken up.

Under ether the auricle and cartilaginous meatus were displaced forwards but the sequesterum was too firmly imbedded in the surrounding bone to be withdrawn. The mastoid tubercle was then exposed and almost the whole of this, together with whatever had formed of the osseous meatus, was removed with a chisel, and the sequesterum finally withdrawn in the condition shown: a few small fragments came away separately on syringing the cavity. The bleeding from the granulations surrounding the necrosis, was quite free but not alarming. For a few days the wound and cavity were dressed twice a day, by douching with carbolic solution 1-60, and then sprinkled thoroughly with powdered iodoform; after this the dressings were continued once a day, and now, about three weeks after the operation, the wound is healed and all discharge from the meatus has ceased. The facial paralysis still remains.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, March 21, 1887.

The President, DR. JOHN SHRADY, read a paper on

THE ANEURISMAL DIATHESIS,

in which he arrived at the following conclusions: The subject of aneurism, presenting, as it did in its various relations to mechanics, etiology and pathology, many points of interest, it was within the scope of the paper to discuss. It was sufficient to call attention to various forms of the human physique which were likely to indicate tendencies in this direction and which might, perhaps, start an impetus to further investigations. He was, indeed, not yet sufficiently settled in his own convictions to propose any law comprehensive enough to embrace all the cases observed or reported; but he thought he was warranted in the statement that a tendency to aneurism might be recognized to exist in the following instances:

(1) In individuals possessing a large, not necessarily hypertrophied, heart, the pulsations of which are quick — say over eighty-five to the minute — and forcible; this condition generally being present in the long-bodied and short-limbed. These individuals are necessarily muscular, to compensate for a relatively poorly developed osseous system.

(2) There are certain racial configurations in which fatty degenerations are prominent, as, for example, among the Teutons, and exceptionally among the Celts, in which the aneurismal tendency is a marked feature.

(3) There may be an induced or cultivated diathesis, as among those addicted to athletic sports who primarily overtax the heart, and secondarily the circulation.

(4) Obesity, as presenting an enfeebled resistance to forces which have been adjusted to a different condition of things.

<sup>2</sup> See page 395 of the Journal.

(5) The diathesis may be latent from lack of circumstances awakening it into existence, as in the case of those leading lives of luxury and ease.

(6) The absence or suppression of the emotional temperament may retard, or altogether avert, the final catastrophe.

#### REMOVAL OF THE UTERINE APPENDAGES.

DR. A. P. DUDLEY presented the ovaries and tubes of a patient, the wife of a physician, which he had removed that day for a chronic inflammatory condition. It was such a case, he said, as would formerly have been supposed to be due to pelvic cellulitis; but a year's continual and faithful treatment had entirely failed to remove the difficulty, and no pelvic cellulitis whatever was found when the abdomen had been opened. The left ovary, in addition to being in an inflamed state, was markedly prolapsed, while the Fallopian tube on that side, also greatly inflamed, was bent downwards, with its fimbriated extremity adherent to the ovary and the tissues adjacent. Dr. Dudley had hoped to be able to save the right ovary; but the condition of the ovaries and tubes on both sides was found to be one in which acute attacks of inflammation were continually liable to occur, and in which the removal of all the uterine appendages offered the only hope of permanent cure. During the past year he had indeed cured the patient of two such inflammatory attacks, and this process would have gone on indefinitely as long as the organs remained in the body.

#### VENTRAL HERNIA; INTERMITTENT DIABETES.

DR. J. W. S. GOULEY related the history of a case, the pathological specimens from which Dr. Frank Grauer, of the Carnegie Laboratory, was to have presented, with a report of his microscopical examination. Dr. Grauer, however, was unable to be present. The patient was a lady, seventy-two years of age, who suffered from ventral hernia for more than twenty years, and he said it was the longest ventral hernia that he had ever seen. She had also been diabetic for at least thirteen years, and the form of glycosuria with which she was affected was that which the French term intermittent diabetes. For considerable periods at a time the urine would be entirely free from sugar, and at these times it would be loaded with urates and uric acid. The urine, which was sometimes passed in the most enormous quantities, was exceedingly irritating, and the patient suffered greatly from an eczematous affection of the vulva, and also from abscesses of the vulva and perinæum. At one time she also had a very large carbuncle on one hip; but she made a good recovery from this. Six weeks before her death she had an acute attack of bronchitis, from which she also recovered. Shortly after her recovery from this, however, she exposed herself to the draught from an open window, and this brought on another attack of general bronchitis. Although her vitality was very great, she was unable to stand this second attack, and died in the midst of it from exhaustion.

At the autopsy the hernial sac was found to consist of nothing but skin, and that was very thin. Dr. Gouley had always opposed operative interference in her case, and the condition of affairs found after death showed how unavailing any operation would have been. The sac contained the entire intestinal canal with the exception of the duodenum, the caput coli, and the rectum, and therefore it could not possibly

have become any larger than it was. The diameter of the neck of the sac was no less than nine inches. The liver was apparently normal, except that a small portion of the anterior border of the right lobe was sclerosed. There was also marked sclerosis of the spleen and of both kidneys. During life, however, there was no evidence of this condition presented by the urine; which was several times examined with great care by Professor Flint. The pulmonary tissue was normal, but there were present the lesions of acute bronchitis, extending to the smallest ramifications of the bronchial tubes. The heart presented calcareous degeneration of some of the valves, together with old mitral stenosis. The sclerosis of the spleen and kidneys was therefore amply accounted for.

DR. FLINT remarked that this case, which he had seen in consultation with Dr. Gouley, presented some points of extreme interest to him. This intermittent diabetes was a variety of the disease which he had seldom observed, and in regard to which he had formerly been somewhat sceptical. There could be no doubt, however, that this was a truly intermittent case, and not one of those instances, of which he had seen quite a number, in which the sugar disappears from the urine for a time after the patient undergoes a moderate restriction of diet. The case was of great interest, again, as regards the matter of diabetic coma. The patient at no time exhibited the slightest tendency to coma, but retained consciousness perfectly up to the last. She was unable to dislodge the mucus accumulated in the bronchial tube; and died simply of exhaustion.

Dr. Flint then referred to another case of diabetes, which he had recently seen in consultation with Dr. Frederic Dennis. The patient was a lady, seventy years of age, who had had diabetes for seven or eight years, which was by no means of an intermittent character. It was, on the contrary, persistent, and was attended with nearly all the typical symptoms of the disease. The case had been under the care of Dr. Lusk for some time, but was consigned by him to Dr. Dennis, on account of the fact that one of her feet became affected with gangrene. She was placed by Drs. Dennis and Flint on a strict anti-diabetic diet, and as she had been taking a very large quantity of milk daily, this was stopped. In addition, she was ordered three drops of Clemens' solution of arsenic of bromine, three times a day; and, under this régime, the improvement in her condition became very marked. The quantity of urine passed *per diem* was reduced from 110 ounces to 50 ounces, and the sugar was eliminated from it. The condition of the foot also improved for a time, but the gangrene afterwards extended, and the patient finally died of exhaustion. In this case, also, the mind remained perfectly clear to the last, and there was not the slightest approach to anything like diabetic coma.

Dr. Flint went on to say that, during the last two or three years, he had accumulated records of about ninety cases of diabetes, and that he had taken unusual care in following them up. Some of the patients had died under his observation, but he had never yet met with a single instance of diabetic coma. He had, however, records of cases, seen by him at one time or another, who had died under the care of other physicians, and who were reported by them to have been the subjects of diabetic coma. In this connection, he related the case of a very wealthy lady, to whom the

restraint of the restricted diet ordered for her eventually became intolerable, and who, on leaving for the country, announced her intention of trying a moderate indulgence in a general diet for a time. He afterwards learned that she had died in diabetic coma. He also knew another case in which the patient died of diabetic coma, after indulging in a prolonged "sugar debauch." Still another had died in the same way, after going to Carlsbad. During the journey to that resort she had lived upon an unrestricted diet, and he had been informed by her physician that, when she arrived there, she was in a practically hopeless condition.

The idea had been expressed in certain quarters that the restriction to anti-diabetic diet tended to produce diabetic coma, but Dr. Flint's experience was directly to the contrary of this. So far from its leading to this condition, he was convinced that it was extremely rare for patients to die of diabetic coma while they were living on a strict anti-diabetic diet; and he believed that this restricted diet actually prevented, or tended to prevent, diabetic coma. This condition was apparently due to the presence in the blood of some poison, which the kidneys were unable to throw off; and it was noticeable that when the coma came on, the sugar disappeared from the urine. He was at present engaged in a series of investigations upon this important subject, and hoped, at no distant date, to be able to ascertain certain facts which might, perhaps, throw some light upon it. In conclusion, he made some remarks upon the neglect of patients to carry out the anti-diabetic diet. It was this which had brought the method into bad repute, and he thought that physicians, as a rule, did not pay sufficient personal attention to the regimen of their cases. It was very important that this should be made as pleasant as possible for the patient, and efforts should constantly be made to tempt his appetite.

DR. CHARLES A. LEALE presented samples of two

#### NEW ANTISEPTICS AND DISINFECTANTS,

which he had tested, with satisfactory results, in his own practice. The first of these was glycozone, which consists of chemically-pure glycerine, with four volumes of ozone. It was an entirely odorless fluid, and it effectually destroyed all bad odors. It was thus a very valuable application for cases of offensive cancer. The other agent exhibited was solution of peroxide of hydrogen, which, he said, constituted a most admirable substitute for Labarracque's solution of chloride of lime, which was very offensive to many individuals. Diluted with water, ten parts to one, it could be used in all cases for which the latter was employed; and, like the glycozone, it was entirely odorless and colorless.

### Recent Literature.

*Monthly Nursing.* By ALFRED WORCESTER, A.M., M.D. 16mo. pp. 250. Boston: D. W. Mason, 1886.

This book is based on the instruction given to nurses at the Boston Lying-in Hospital, where the author was house-physician in 1883, and is the best manual on monthly nursing with which we are familiar. It is admirably written, the style is clear and crisp, and the teaching thoroughly sound. While the book will do much, we believe, to dignify her calling

in the estimation of every nurse who is fortunate enough to study its pages, it will not instill an exalted idea of her own importance; on the contrary, while the nurse is impressed with the responsible nature of her duties, she is taught to pursue her calling with becoming humility and with a spirit of loyalty to the medical attendant, whose lieutenant she is.

The first chapter, on Preliminaries, is replete with good advice concerning the nurse's health, dress, personal habits and conduct, and various minor, though important, matters in respect to her relations to the patient and the patient's family. Subsequent chapters impart such information concerning parturition as it is necessary for the nurse to know, and appropriate instruction as to her duties during labor and convalescence: the care of the baby also receives adequate attention. Chapter IX, on Emergencies, is a valuable one; and Chapter X, Odds and Ends, imparts much useful information, including clear instruction as to the proper records a nurse should keep for the use of the physician and her own improvement. The appendix contains a number of recipes for preparing various delicacies for the sick room, and a glossary of medical terms.

On page 124, footnote, in describing the double Y bandage for the support of the breasts, the author attributes the invention to Drs. Kingman, Otis and Hayward, former house-physicians of the Boston Lying-in Hospital: we understand, however, that the credit of this useful appliance, which is still used at the Hospital, is due entirely to Dr. Hayward. We regret that the author has failed to incorporate in his book more extended instructions concerning the use of antiseptics; but we have no doubt this defect will be remedied in subsequent editions, which we hope it will become the duty of Dr. Worcester to prepare.

*Diseases of Women. A Handbook for Physicians and Students.* By DR. F. WINCKEL, Munich. Translated by J. H. Williamson, M.D. Edited by Theophilus Parvin, M.D. Philadelphia: P. Blakiston, Son & Co. 1887.

We give a hearty welcome to this translation of "Winckel's Handbook of Diseases of Women." His reputation as an accurate observer, an indefatigable worker, a good pathologist, and a progressive yet conservative man are well sustained by this, his latest and most important work.

Its chief merits are the natural results of the characteristics of the man. As an acute and accurate observer he has let nothing that has come within the sphere of his activity escape him, and the result is a treatise on gynecology which is very complete. While giving in the main due prominence to the more important and commoner affections, he has not neglected to mention the very rare and even isolated cases of obscure diseases. Starting with diseases of the vulva in the opening chapter, he successively treats of diseases of the vagina, uterus, tubes, ovaries, ligaments, peritoneum, pelvic connective tissue and breasts, thus rounding out and completing the whole subject. To condense so much in a work the size of this one, has necessitated careful pruning, and a great deal of unnecessary matter has been left out. Descriptions of instruments and different forms of pessaries, histories of cases, and long descriptions of operative procedures which differ only in unessential points, are conspicuous by their absence.

A larger part is devoted to the pathology of the subject than is usually the case. This constitutes its chief value, for it meets a decided want. No other book to our knowledge presents so full an account of the results of recent pathological research in this department.

Winckel is eminently conservative, especially in the matter of operative treatment. At the same time he is free from prejudices, and holds himself open to conviction. Such an attitude on the part of one who is writing a book for "physicians and students," is certainly a wise one.

It would be impossible to read so comprehensive a work, and not find some ground for criticism. There is much less than usual in this book, however. His acquaintance with current literature on the subject of gynecology is very extensive. It is, naturally of course, mainly German, yet it seems as if he scarcely gave American gynecologists credit for their share in the progress that has been made. It would add value to the work if more complete references were given to authors and works cited. His descriptions of plastic operations on the vagina are brief, and in the absence of plates, not very clear. He has very little to say about the treatment of displacements with pessaries, and dismisses Emmet's operation for laceration of the cervix with a single short paragraph under the head of endometritis.

For so large a work, the number of plates is rather small; but it is a pleasure to see so many original ones, many of them drawn from actual pathological specimens.

The book will be a valuable one to physicians, and a safe and satisfactory one to put into the hands of students. It is issued in a neat and attractive form, and at a very reasonable price (three dollars).

*Drug Eruptions. A Clinical Study of the Irritant Effects of Drugs upon the Skin.* By PRINCE A. MORROW, A.M., M.D., Clinical Professor of Venereal Diseases, formerly Clinical Lecturer on Dermatology in the University of the City of New York, etc. New York: William Wood & Co. 1887.

This is a most useful book, one long needed. It is only within a few years that attention has been called to the subject of dermatitis medicamentosa, and although there have been many observations published concerning the irritating effects of individual drugs upon the skin, some of them of great value, there has been no general and exhaustive treatise before this. Indeed, it may be said that observers of sufficient dermatological skill to recognize the nature of such cutaneous disturbances were lacking until recently. As the author well puts it: "When the enormously large number of cases of drug eruptions which have been recently reported is contrasted with the comparatively few formerly recorded, it is evident that a prolific cause of cutaneous disorders long escaped recognition."

Disorders of the skin produced by the internal administration of drugs, are now designated by the title dermatitis medicamentosa, while the term dermatitis venenata signifies such disturbances as are caused by the action of external irritants. The title adopted by Dr. Morrow is a more general one, and includes, as employed by him, all inflammatory affections of the cutaneous tissues, which result from the internal and

external use of "drugs." Eruptions produced by the first of these causes he divides into two classes: (1) the ordinary forms, which he regards as an expression of the specific, physiological action of a drug upon the cutaneous tissues, and (2) anomalous forms, which he considers to be observations of the drug's normal action. Dr. Morrow is a disbeliever in the commonly accepted theory that the inflammation in dermatitis medicamentosa is due to the direct local action of the drug upon the cutaneous tissues during the process of elimination through the glands of the skin. He discards the results of some observers who have reported the discovery of irritating substances in the cutaneous glands, iodine for example, after their internal use, chiefly upon the failure of other investigators who fail to find them. In view of the conflicting character of such positive and negative results, this factor can hardly be excluded from the etiological possibilities. It is in the sphere of the nervous system that he looks for the explanation of these phenomena, a part of which he attributes to the irritating effects of the drug in the blood upon the vaso-motor centres, and a part to its direct action upon the peripheral nerves.

After introductory chapters on general characteristics, etiology, pathogenesis, diagnosis, and treatment, the author proceeds to describe, following an alphabetical arrangement, the inflammatory effects of all drugs upon the skin, which have fallen under his own observation, or of which an exhaustive search through medical literature of recent years, receives mention. In connection with the careful analysis of the varied effects of these agents upon the cutaneous tissues there is also given in most instances an elaborate account of the tests for their presence, or that of their modified forms, in the urine, of great value in a diagnostic point of view. The number of drugs capable of producing such irritation upon the skin by internal use or external contact thus treated of, is sixty. The action of some of them in this direction is of course very trivial and of infrequent occurrence, but others from their enormous use in medicine and the great frequency and variety of their mischievous effects demand the serious consideration of the practitioner. This they have received in due measure from the author, and his treatment of the most important subjects, as the action upon the skin of arsenic, bromine, chloral, cinchona, iodine, etc., is exhaustive and admirable. Inasmuch as the tissue changes produced by such irritants range from the most fugitive expressions of simple hyperemia to grave forms of destruction and hypertrophy even, and closely simulate many well-characterized cutaneous affections, it is evident that it requires the skilled dermatologist to present the subject in a proper form for the practical needs of the general physician. Nor should the latter fail to take advantage of such special studies, for errors are constantly arising for lack of such knowledge on the part of the latter, who often fails to recognize that a dermatosis occurring in the course of some disease under his care is the direct result of his own remedies.

The book presents a general good appearance, and is illustrated by a well-executed colored frontispiece of a remarkable case of dermatitis produced by iodide of potash. It is furnished also with a very complete and valuable bibliography.

—A physician, Dr. Baxter, has been elected speaker of the Ontario Legislature.

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THE CAUSES OF MALIGNANCY IN SYPHILIS.

LIKE other diseases, syphilis presents a great variety in the severity of different cases. Some cases are benign: their manifestations are superficial and of short duration, and their tertiary lesions, if they appear at all, come on after many years of perfect health. Other cases are malignant: the cutaneous manifestations ulcerate, they succeed each other in a fashion almost continuous, and the general condition of the patient is profoundly altered; the late manifestations occur at an early period, and are of a severe, and perhaps fatal, character.

The malignancy of certain cases may be explained, either by a special germ which bears in itself the principle of special gravity, or the character of the individual disease is determined by the soil upon which the germ is developed. The doctrine which refers the gravity or benignity of the disease to the source of contagion explains all easily; but the generality of pathologists believe, to-day, that if a syphilis is severe, it is so by virtue of circumstances personal to the patient. Syphilis is syphilis, exactly as small-pox is small-pox. Cases vary in gravity in the same epidemics, and in the same family. Confrontations show that the transmitted syphilis may vary very greatly in gravity from the original. Cases of husband and wife, who must in all human probability have received their disease from the same stock, differ very greatly in the experience of most physicians. The doctrine of different viruses was strongly upheld by the *Revue Médicale* of March 27, 1886. In the view of that journal, there are attenuated viruses. Syphilis always resembles the parent stock, and there are certainly stocks so attenuated, that, even in old men and the tuberculous, they produce only very benign cases. Such it believes to be the history of all virus, and, in this way, it explains the gravity of the syphilis of seaports, and of certain countries. "Is it not evident," it inquires, "that the diathesis has become attenuated since the commencement of the century? Why, if not because that, transmitting itself from subjects

treated, to other subjects who are also treated, before communicating it themselves, its principle becomes less and less active? In prognosis, then, it is necessary to take into account the form of disease communicated." The gravity of syphilis in seaports, if one may judge other ports by Boston, remains to be established. The diseased may be divided into two categories: the seafaring population, and the land abiding. The sailors present a noticeable number of grave cases of syphilis, as compared with the dwellers on the land. Such a gravity would be explained by the importation of an unusually grave form of disease, and such an explanation would be accepted by the sailors themselves. They believe the Chinese pox, for instance, to be much more severe than other forms, but the character of the soil is to be considered. As a whole, the merchant seamen of the present day, though an exceedingly interesting, are not a thrifty and care-taking class, but rather rum-loving, improvident, and careless, exposed to all sorts of vicissitudes of weather, presenting, in fact, just the characteristics which, in others, we believe, lead to a malignant type. If the germ differs here, the soil differs also. In a clinical lecture during the past year, by M. Fournier, he pronounces himself strongly in favor of the invariability of the virus, and he mentions six different causes of malignancy,<sup>1</sup> whose existence he believes to be well determined: (1) Certain conditions of age. (2) Scrofulo-tuberculosis. (3) Alcoholism. (4) Malaria, which counts for much, probably, in the gravity of syphilis contracted in the colonies. (5) Hereditary or acquired predisposition. (6) One of the most important—the absence or the insufficiency of treatment at the origin of the disease.

One may say that syphilis is particularly grave at the two extremes of life: in the very young and the very old. This rule would apply, in the young, quite as much to the acquired as to the congenital form; so vaccinal syphilis in very young children results almost always in very grave, often fatal, accidents. After six months or one year, the prognosis of syphilis so contracted is entirely different. Acquired beyond fifty, the prognosis of syphilis is grave; beyond sixty, it is yet more grave, and the disease is characterized by, first, a tendency of the primary lesion to phagedena; second, of the eruptions to be profuse and general; third, early appearance of the tertiary accidents, like gummata and cerebral lesions; and fourth, and lastly, the tendency to a very marked reaction upon the general condition, a loss of appetite and of strength, a languor and enfeeblement, and prostration, followed by actual cachexia.

Scrofulo-tuberculosis has, according to Fournier, such an influence upon syphilis, that its action has never been disputed. In the scrofulous, syphilis has a tendency to take on the suppurative, ecthymatous, impetiginous, rupial forms. It is among them that one sees the precocious, malignant syphilide and the massive adenopathies, with multiple ganglions con-

<sup>1</sup> *Annales de Dermatologie et de Syphilographie*, 25 Mars, 1887, p. 204.

nected together, and becoming fistulous. These adenopathies may produce themselves at the time of the chancre, and differ decidedly from the *pléiade* of Ricord. They constitute the syphilo-strumous bubo. In place of the posterior cervical ganglion, for example, one finds a ganglionic chaplet, extending from the mastoid to the clavicle. Ocular accidents are also frequent; in the articulations, pseudo-white-wellings produce themselves; finally, it seems that the scrofula directs the syphilitic lesions towards the mucous membranes of the larynx, pharynx, and nasal fossæ.

It must be added, too, that in these conditions, syphilis often occasions grave troubles of health, ending rapidly in cachexia. In addition, the association of scrofula and syphilis ends in creating singular hybrid types, which recall, by the ensemble of their characteristics, the two maladies. Syphilis reacts upon scrofulo-tuberculosis by aggravating it. It is certain that, in subjects predisposed to tuberculosis, syphilis provokes the development of that disease in the same way as other causes, like fatigue, grief, or poverty.

Alcoholism has a very marked, though not a constant, influence upon the gravity of syphilis, and it acts in four different modes: First, it predisposes to grave and precocious forms of the syphilides, which do not usually appear until after the lapse of many years. Alcohol has an influence upon all the dermatoses, and it is not astonishing to find that influence in syphilis, and it is often so marked, that one can diagnose alcoholism by the aspect alone of the lesion. Alcoholism also favors the production of those forms in which the syphilitic manifestations succeed each other in a fashion almost continuous. It favors again, those cases which act upon the general health, and can, in little time, cause a veritable cachexia. Alcohol, at last, predisposes to cerebral syphilis. It figures largely in the antecedents of those thus afflicted, and it is to its influence that are due the precocious cerebral cases that appear in the secondary period, and even in the first year of the disease.

But of all the causes of gravity in syphilis, the most common, and, at the same time, the most active, is poverty. The syphilis of the poor is often fruitful in immediate accidents, more or less severe, such as ulcerating, confluent syphilides, intense alopecia, pains, ophthalmias, and, above all, accidents of a general order — asthenia, anæmia.

Syphilis is infinitely less grave in the easy classes. M. Fournier makes an exception for the syphilis in those whom one calls the *viveurs* — men of the world — the inactive, the idlers, the useless. They are exhausted by the dissipations, the nights turned into day, and the fatigues of a worldly life; and this exhaustion brings the same consequences as actual want. In gamblers, cerebral syphilis is particularly common, as also among the men of the stock exchange, financiers, and actors. Nervous overwork constitutes one factor of gravity for syphilis, in directing its localizations upon the brain and the cord.

As to the absence or insufficiency of treatment as a cause of gravity in syphilis, M. Fournier remarks that the enormous majority of cases of grave tertiary syphilis (nineteen out of twenty) occur in those who have not been treated, or who have been only insufficiently treated. It is not with a treatment of some weeks that syphilis is cured in a definite fashion. It needs a treatment prolonged and methodic, and few persons submit to it. Moreover, many cases of syphilis are unrecognized until some tertiary accident sends the sufferer to the doctor.

#### THE TREATMENT OF ANEURISMS.

A CASE of aneurism of the innominate, reported in this issue of the JOURNAL, in which various recognized methods of treatment—rest, diet, pressure, the internal exhibition of iodide of potash in increasing doses for a long time, and subsequent successive ligation of the carotid and subclavian arteries—were all faithfully resorted to without averting a fatal issue, notwithstanding the fact that the patient was in many accounts an unusually favorable subject, suggests a brief consideration of the treatment of aneurisms as practised at the present time.

Dr. I. Burney Yeo, in his recent lectures on Clinical Therapeutics, affirms that one of the most remarkable gains in the treatment of disease in recent years has been the employment of large doses of iodide of potassium in the treatment of internal aneurisms. When he began the use of this remedy in these affections, his results were disappointing, and he found many of his colleagues equally sceptical as to its utility, which is scarcely to be wondered at from the size of the dose given. But in the year 1877, on the occasion of the meeting of the British Medical Association at Manchester, he was fortunate enough to see in the Infirmary of that city a number of cases of thoracic aneurism, which had been collected together by Dr. Simpson, for the purpose of showing members of the Association the value of the iodide of potassium treatment of such cases. It was a remarkable series of cases, and the results were excellent, but instead of giving these patients such small doses—five grains three times a day—as Dr. Yeo had been in the habit of prescribing, the Manchester physician was giving twenty to forty grain doses three times a day. As soon as Dr. Yeo began using these larger doses, he saw admirable results follow. On inquiring into the *modus operandi* of the curative action of iodide of potash in internal aneurisms, he found that only a small proportion could be regarded as syphilitic, and even in these cases it was difficult to understand how the iodide did good. Another suggestion was that the iodide increased the coagulability of the blood; but post-mortem examinations seemed to show that the process of cure was obtained chiefly by “some peculiar action on the fibrous tissue, causing thickening and contraction of the walls of the sac.”

It had been noticed clinically that in some cases under the influence of the iodide, the pulsations in the aneurismal sac and throughout the arterial system, were much diminished in force, and this was referred to a reduction in the intra-arterial blood-pressure, brought about by the action of the drug.

Balfour was the first to bring iodide of potassium prominently to notice as a remedy for aneurisms. His doses were large: thirty grains three times a day for months. The effect of iodide of potassium is, he thinks, to produce diminution of the cardiac force and of the blood-pressure, and secondarily, diminution of the size of the sac, and thickening of its walls. Any coagulum present, Dr. Balfour thinks, is accidental, or at least not dependent on the action of the iodide.

Notwithstanding these favorable endorsements and the numerous reports of good results and improvement under the iodide, we are inclined to the opinion expressed by Strümpell, that but little action of lasting character can be expected on an aneurism from the use of internal remedies, although we are ready to accept Flint's injunction that the iodide should be faithfully tried in cases of thoracic aneurism. The influence of the drug may be increased if accompanied by a strict application of Tufnell's method of absolute rest in the recumbent position and a strict limitation of food and drink—ten ounces of solid food and eight of liquid being recommended as the limit to be aimed at. The patients possessed of the philosophy and self-control to submit honestly and persistently to such a regime are, however, rarely encountered.

Blood-letting as advocated by Valsalva is no longer practised, and it is also recognized that the withdrawal of food and drink beyond a certain point, which should be ascertained in each individual case, causes anemia, weakness, irritability of the heart, impaired nutrition of the arterial walls; all of which certainly do not favor the formation of coagula.

Turning now to the operative processes, we have, in addition to pressure and the ligature—two well-established methods where the situation is favorable—galvano-puncture, and the introduction of foreign bodies such as fine wire, horse-hair, catgut, silk, etc.; the last two methods are still on trial, and have been practised in too small a number of cases to allow of very definite conclusions as to modes of application or as to probable results. The introduction of foreign bodies in particular has been practised, hitherto, we believe without exception, in rather desperate cases.<sup>1</sup> Galvano-puncture has occasionally been followed by cure in suitable cases, more often by disappointment and sometimes by inflammation of the sac and speedier rupture. It has also been accused of giving rise to emboli and regarded as dangerous for that reason. Both of these methods are well presented in a report of two cases by Dr. Robert Abbe, before the New York Surgical Society, incorporated in a paper<sup>2</sup> on aneurisms treated by the introduction of catgut, or

of wire, with electricity. He considers the introduction of foreign bodies as only indicated in the class of aneurisms springing from the aorta or its greater branches, not amenable to ligature and irresponsible to medicine, diet, or rest. Fifteen cases of the use of wire, silver, iron or steel, have been reported, two of which have been followed by recovery; in only two of the cases was there any trouble from emboli, and in one of these the origin was doubtful; eight of the cases gave autopsies, all except one showing coagulation. Barwell, Roosevelt, and Abbe have applied electrolysis after inserting the fine sterilized wire through a small insulated canula. All of these fifteen cases were regarded as desperate, and the fact that obliteration of the sac was produced in two large aneurisms of the abdominal aorta—in neither of which electrolysis was used—shows that the method is, at least, worthy of further trial and attention.

With regard to distal ligature in aneurism of the innominate, Barwell's position, that simultaneous ligature of the subclavian and carotid, when not contra-indicated, is preferable to consecutive ligature, is now generally accepted. A recent successful case, in which the operation was performed by Dr. John Ashhurst, was reported by Wharton.<sup>3</sup> He finds that consecutive double distal ligation has been practised and reported in eight cases of supposed innominate aneurism, with three recoveries and five deaths, there being temporary improvement in one of the fatal cases. Of thirty-two cases of simultaneous ligation recovery followed in twelve, death in sixteen, temporary improvement in four. The ratio of recoveries is about equal, but the number of reported simultaneous ligations is considerably larger.

#### MUSCULAR ATROPHY CONSECUTIVE TO LESIONS OF THE JOINTS.

The wasting of muscles in consequence of injury of joints in the vicinity has long been known, and was first remarked by John Hunter, who calls attention to it, under the head of sprains and dislocations.

Bonnet, in 1845, indicated muscular atrophy among the complications of sprain; and Roux, in the same year, mentions atrophy of the deltoid as following puncture in cases of scapulo-humeral hydrarthrosis. Gosselin also, in 1859, described the muscular atrophy consecutive to fractures of the long bones. Duchenne, of Boulogne, reports a case of sprain of the knee, with considerable swelling of the joint, which was followed by wasting of the thigh muscles, so that extension of the leg on the thigh became impossible.

Valtat, who has written a very complete treatise on the subject, has produced inflammation of the joints in animals, and has seen notable atrophy follow in the muscles above and below the joint affected. The atrophy comes on in less than a week after the injury, whether the lesion be experimental or accidental,

<sup>1</sup> An account of previous cases may be found in this Journal, Vol. cxii., p. 354.

<sup>2</sup> Medical News, April 9th, p. 397.

<sup>3</sup> Proceedings College of Physicians, Philadelphia, March 2, 1887.

and is more apt to follow arthritis in young than in old subjects. It disappears rapidly when the joint-inflammation subsides.

Vulpian, who discusses the subject exhaustively in his recent work on "Nervous Diseases," attributes the pathogeny of this atrophy to "a special modification of the cells of the anterior gray horns of the spinal cord—a modification brought about by irritations emanating from the peripheral parts that are the seat of the injury, and whose final result is an enfeeblement of the trophic influence of those motor cells."

The same explanation applies to the muscular atrophy sometimes accompanying neuralgias, burns, wounds of nerves, etc.; and thus it will be seen that the pathogeny is essentially the same in these cases, as in atrophic spinal paralysis of infant and adult life, a diminution or impairment of trophic influence being the cause, although (it must be remarked) the spinal affection in the atrophy of arthritis, neuralgia, etc., is functional, rather than organic.

#### MEDICAL NOTES.

—It is stated by the *Medical Press*, on the authority of Dr. Grawitz, an assistant of Professor Virchow's, that in as many as one-third of the cases of so-called muscular rheumatism which have been examined *post-mortem*, the presence of the *trichina spiralis* has been demonstrated. In many of these cases, the parasites must have been present in the muscles for many years.

—Surgeon-Major Moore, of the English Army, the originator of the present ambulance system, has become blind and has been obliged to retire on the lowest rate of pension. The secretary for war, while admitting that the case was deserving of sympathy, declined to accede to any request that might be made a precedent for an increase of pension. It is not alone republics that are ungrateful.

—Quarantine has been established, except at Alexandria, by countries along the Mediterranean for ships arriving from Sicily. At Malta a stringent quarantine has been established against Sicily. Passengers arriving from other Mediterranean ports are obliged to produce a consular certificate that they have not been in Sicily for twenty-one days, before being allowed to land.

—The consular reports published by the Marine Hospital Service, April 21st, show that up to March 6th, there had been no appearance of cholera in Peru. Some cases had been reported on the eastern interior frontier of Bolivia, doubtless proceeding from the Argentine Republic, and energetic measures were being taken to prevent the spreading of the disease. Cholera, in Chili, was rapidly diminishing at last reports, early in March: a report of its appearance in Mexico has been officially denied by telegraph.

—The report comes from a Russian source, of a curious case of self-castration: A tall, powerfully-built, married peasant, twenty-nine years of age, who

had been subject to epileptic attacks, and had become morose, silent, and fond of religious literature, while reading one of his favorite books, suddenly, with a single pull, and without a cry, tore away his scrotum, together with the testes. Then, rising from the bank where he was sitting, he quietly handed the avulsed parts to his mother, who was near, with the words: "Take that; I do not want it any more." On admission to the hospital on the following day, there was found a lacerated wound as large as a man's hand, with an uneven base and irregular edges. The general condition was good; there was neither pain nor constitutional disturbance. The wound healed rapidly and well. A similar case had been previously reported by the same physician, the patient mutilating himself in this way while suffering from delirium tremens.

—The French developers of hypnotism seem to have carried their science to a point of supersession of the decalogue, and to have set their subjects on a plane exempt, even, from the civil law. Thus the Paris correspondent of the *Lancet* describes the history of a patient under the care of M. Mesnet, as related by him at a recent meeting of the Academy of Medicine: A young man, nineteen years old, whose mother was the subject of hysteria, had had fits of somnambulism from the age of fourteen. These became so frequent, by day as well as by night, that he was discharged by his employers. Besides the fits of sleep, he has general anesthesia and analgesia, together with complete loss of taste and smell. At the end of last year he was admitted to the hospital. As a matter of course, he was at once utilized for experiment in hypnotism, and was found to be easily induced into the state of "hypnotic fascination" by the magnetic stare, and as easily awakened by being blown upon the face. It was interesting, says M. Mesnet, to ascertain whether this young man was accessible to post-hypnotic suggestion. Having been sent to sleep as usual, he was imperiously ordered to take the watch of one of the students on the following day, and then to endeavor to make his escape. At the appointed time, which was the usual visiting hour, he was seen to look contemplatively at the student's chain; he soon became fascinated by the shining links, and, after several struggles against the suggestion, he could resist no longer, and, detaching the chain, made an attempt to escape. When awakened, and the watch taken from his pocket, he was unable to account for its possession, but protested his innocence and burst into tears. This shows, says M. Mesnet, that a thief or assassin who cannot explain his acts, and declares he has no recollection of them, may be an unconscious agent. Although a magistrate will not believe his negation, he may have no knowledge of what he has done. Prosaic persons may hesitate to accept M. Mesnet's conclusions, but the fascinating action of watch-chains is now placed beyond doubt; and those who are affected with this variety of hypnotism in its chronic form will appreciate his soundness of observation.

## NEW YORK.

—An anonymous gift of \$10,000 has been made, through Mr. George I. Seney, to the Methodist Episcopal Hospital, of Brooklyn. This is an institution which was founded by Mr. Seney, but, on account of his failure in business a few years ago, he was unable to carry out his plans in its behalf.

—The office furniture and fixtures of the Homeopathic Mutual Life Insurance Company have been attached by the sheriff, on the suit of certain policyholders, who claim that the company is insolvent. In the spring of 1886, the Superintendent of Insurance of Massachusetts discovered that its capital was impaired, and peremptorily ordered it to withdraw from business in the State.

—Much complaint having been made of the discomfort and injury to health resulting from the dusty condition of the streets during the past spring, the Mayor has commenced an enforcement of the ordinance prohibiting the sweeping of dirt from stores and dwellings into the street; and, at six o'clock one morning last week, no less than 283 arrests were made by policemen in citizens' clothes, the defendants being fined \$1 and \$2 each at the police courts.

### Miscellany.

#### CATARACT INDUCED BY THE VIBRATIONS OF TUNING-FORKS.

DR. S. TH. STEIN, in order to examine the functions of the cochlea, as reported by the *Lancet*, acted on the eyes of very young porpoises, both in the unimpaired state and after the ears had been destroyed, by means of the vibrations of tuning-forks of different pitches. Cataract was produced in both classes of experiments. In the entire animals, continuous subjection to the action of a high-pitched tuning-fork induced cataract in from eighteen to twenty-four hours, while a tuning-fork vibrating 100 in the minute produced the same effect in twelve hours. In animals whose ears were destroyed, the cataract was much more quickly induced by the tuning-fork, some two or three hours being then sufficient. Dr. Stein's theory is that the condition of the lens is affected by the giving off of heat from the body, and that this is altered by the vibrations, the perception of sound again tending to retard the development of cataract. The members of the Moscow Medical Congress, before whom Dr. Stein related his experiments, did not appear inclined to accept his theories, and Professor Khodin remarked that it was not an uncommon thing for young porpoises to be born with cataract. To this, however, Dr. Stein replied that the cataract produced by his tuning-forks passed off after a time, and could then be re-induced by the same method.

#### DISTANCE-SUTURE OF NERVES AND TENDONS AND SOME APPLICATIONS OF ANIMAL GRAFTS.

GEORGE ASSAKY (Lille), reported to the French Congress of Surgery, the result of certain experiments made by himself and M. Fargin on the above

subjects, which are thus given in the *Annals of Surgery*, April, 1887. This suture consists in connecting by long suture threads the two ends of parts, the apposition of which is unobtainable. The first suture of this kind was made by Benjamin Anger for the tendon of the extensor minimi digiti; the two ends were nine cm. apart, but traction reduced the distance to two cm., and he connected them by a silver suture with a satisfactory result. Gluck substituted catgut in two cases with satisfaction. With M. Fargin, the author has applied distance sutures; the tendons regenerated along the threads are always stronger than those spontaneously regenerated; the number of tendinous fasciculi is greater. This operation is clearly indicated when apposition is impossible; it is more particularly applicable to tendons without a sheath.

They also made experiments upon the application of distance sutures to nerves. They interposed between the two ends of the divided nerves fragments of tendon, muscle and spinal cord. The mechanical conditions had great influence in the regeneration of nerve tissues; catgut gave the best result; silk threads remained indefinitely in place without taking part in the nerve regeneration. In every case examined microscopically, the cicatrix contained connective tissue, but also a great quantity of nerve fibres. This operation then seems to be indicated when the apposition of the two ends of the divided nerve is impossible, and also after certain surgical operations, the ablation of a neuroma, for example.

It was shown by their experiments that tendon may be grafted to animals of the same species and of different classes. These facts have already been applied to man twice. M. Peyrot has obtained in one case the transplantation of a dog's tendon and in another a cat's tendon. All attempts at nerve grafting completely failed; in certain cases there was no elimination, but it could be ascertained that the transplanted nerve-tissue did not enter into the regeneration.

#### THE PREVENTIVE INOCULATION FOR YELLOW FEVER.

THE United States Marine Hospital Service published, in its weekly abstract of sanitary reports, under date of April 14th, 1887, a despatch from the United States consul at Maricaoibo, dated March 7th, in relation to the subject of inoculation as a preventive of yellow fever, with enclosed copies of letters from the Venezuelan consul at Cucuta, Colombia, and from Dr. Bustamante, of the same city, from which it is learned that "Dr. Urricochea, surgeon of the frontier battalion, inoculated, by way of experiment, and with good results, five of his soldiers. Twenty minutes after the operation the temperature gradually ascended to 40 C., accompanied with all the symptoms of yellow fever. This lasted forty hours, at the expiration of which the fever and all attendant symptoms had disappeared. This operation was effected in a place called Moras, three leagues from Cucuta, and where a body of troops is stationed, who have not come to this city for fear of the fever. At present, the inoculated soldiers are here, exposed to the action of the focus of infection. As in Moras, no case of the epidemic has as yet presented itself." Dr. Bustamante, in his letter, says, "as yet my labors in the field of inoculation as a preventive of yellow fever are only, it

may be said, mere experiments, which, although they may satisfy me with a well-founded hope of successful and complete result, cannot be of genuine utility until the best and most efficacious method is decided upon. I am thinking, however, of making an abstract of my observations, together with the method pursued, the results obtained, and everything that may be useful in the premises. For the present, I will confine myself to the statement that, in more than forty persons whom I have inoculated, a fever, with many of the characteristic symptoms of yellow fever, has presented itself; this fever, developed by inoculation, varying several tenths of a degree, and, in some cases, ascending to  $41^{\circ}$  C., but never presenting the most grave symptoms of yellow fever. The result of my observations permits me to state positively that the fever produced by inoculation is attended with no danger; and it is safe to inoculate, as I have already done, from children of two years of age to the oldest individuals. Many of the persons inoculated have come to this city, and in no case has the yellow fever attacked them, which gives me hope of a final result completely satisfactory. The municipality, assisted by the merchants, sent to Mexico, January 10th, a commission composed of two physicians, in order to study the inoculation of the fever."

#### THE METRIC SYSTEM.

PROF. OLBERG publishes in the "Pharmacist," a long and interesting article, assigning grave reasons why the present — which he calls "Anglo Saxon" system should be preferred to the metric system.

A writer in the *Scientific American*, gives his preference for the old system, and says:

"I have gone, this summer through the workshops of almost all the great countries on this side of the water, and have seen the practical use of the system that I have for so long a time condemned."

I have frequently asked engineers if they liked the system, and I will give the answer of one in Berlin. "We use it because we have to, and it is better to have some uniform system than the many measurements that formerly prevailed in the German States. We do not like the metric system because it has too small a unit, and the metre is too large and involves the use of too many decimals. When we consider the interests involved, it will be seen that the population now making practical use of the English standard is greatly in excess of that using by force, the French system. I am more confirmed in my opposition to the enforced adoption of the metric system in my country, and firmly believe that those countries that have adopted it are at a disadvantage (as compared with even the most imperfect of our systems)."

To show the opinion of doctors and druggists of the United States, Dr. A. C. Matchett tells the *Medical Brief*, "that a year since he asked for an expression of approval or otherwise of the metric system of weights and measures, from the medical profession and the druggists of the United States and found seventeen physicians and thirty-one druggists in favor of the system, and 3611 physicians and 2764 druggists opposed to it. The forty-eight wise men who wish for it have, however, made more noise than all the 6405 who do not want it. Leaving aside all argu-

ments, the majority, as it seems from the above statistics (and the majority always rule), say stick to the old system. Why try a system that was only made compulsory and used in a country that had such a multiplicity of measures, almost one to each province, that a general system had to be adopted in order to remedy the evil of varying local standards. Just as well to have adopted our system, for Sir John Herschel has pointed out that the polar axis of the earth is almost exactly 500,500,000 inches, and that the inch may therefore be considered quite as properly a national standard as the metre, and that the desirable correlation between volume and weight may be found in the fact that a cubic foot of distilled water weighs nearly a thousand ounces. By slight changes of the units this relation might be made exact, and the inch become equal to 1,500,000,000 part of the earth's polar axis; twenty-five of such inches making a cubic equal to the 1,10,000,000 part of the polar radius.

#### Correspondence.

##### TEN YEARS OF METRIC PRESCRIPTIONS.

( $10 \times 0.1 = 1.0$ )

SALEM, April 13, 1887.

MR. EDITOR.— Would it not be of interest if the enthusiastic pioneers of the metric movement, who advocated its adoption so cogently in the columns of the *JOURNAL*, a decade or so ago, should now report through the same medium to what extent the seed then sown has borne fruit? It will be remembered that at that time, or soon after, the *JOURNAL*, with the view of familiarizing and helping forward the cause, presented an epitome of the metric system in medicine, on the last page of each number, for a period covering several months, but the practice finally fell into desuetude, and for some years, or since the exposure of the *c.c.* fallacy, but little has appeared in print concerning the system.

In the following few lines, is embodied the writer's uneventful experience in writing metric prescriptions *exclusively*, for the past ten years (with the solitary exception of a receipt once given to a friend when in London).

His first one (April 23, 1877) was thus written:

Zinci sulph.	.	.	.	.	gr. 1	0.06
M. Aq. rose.	.	.	.	.	3	31.0

With a view to educate the apothecary up to the decimal point, this double method was continued for over a year on every prescription that was written.

This modification was then made — most of the reputable druggists of Salem and vicinity having, in the meantime, provided themselves with metric weights:

Zinci sulph.	.	.	.	.	0.05	5 centig.
Aq. rose.	.	.	.	.	30.0	30 grams.

But after the lapse of a few months the translation on the right was omitted, and the plan that prevails in Germany was adopted and continued to the present time. (In France, where the paternal oversight is so fully developed, the quantities of the ingredients of *les ordonnances* are ordinarily written instead of being expressed in decimals.)

Some thousands of prescriptions I have been written in the last ten years by the undersigned, and it is rather remarkable that none have ever been returned by a perplexed dispenser (excepting once or twice, when the quantities were inadvertently omitted) — a fact that speaks volumes for the progressive tendency of the American apothecary, or else for the ingenuity with which he adapts himself to unknown ways.

It must be confessed, that one conscientious but irascible

apothecary made a most violent onslaught on the writer, by letter. In it, he said, he should positively refuse to have anything to do with a system that was in direct violation with the laws of the land, and the general adoption of which would surely give rise to fatal accidents and much woe.

As a matter of fact, so far as is known, no mistakes or accidents have ever been traced to the writer's lawless method of ordering medicines.

The compilers of the last "United States Pharmacopœia" (edition 1882), indecreeing that measures of capacity should be expressed in parts by weight, doubtless did much towards familiarizing both physicians and pharmacists with the metric idea.

Not infrequently, patients on glancing at the prescription have recognized it as a decimal one and have ex-

pressed themselves favorably of the system. But not long ago, a bucolic female, after attentively examining a prescription, appended to the several ingredients of which were 1.0, 0.50, etc., asked if the figures indicated the cost of each article, for, if so, she could hardly afford to have the receipt prepared.

It is scarcely necessary to say that after a trial of ten years, in writing metric prescriptions and in recording cases of refraction after the decimal system, the writer is not inclined to return to cabalistic symbols, or to the inconveniences of vulgar fractions.

Allowing that the lineal standard is not exactly all that is claimed for it, perhaps the metre rests on a better scientific basis than does the old English inch, which represents the length of three barley-corns.

Very truly yours, D. COGIN, M.D.

## REPORTED MORTALITY FOR THE WEEK ENDING APRIL 13, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrheal Diseases.	Diph. & Croup.	Measles.
New York . . . . .	1,481,920	825	306	15.12	20.40	1.92	7.12	2.16
Philadelphia . . . . .	963,801	450	166	11.22	12.98	.88	3.30	5.08
Brooklyn . . . . .	745,108	—	—	—	—	—	—	—
Chicago . . . . .	725,000	—	—	—	—	—	—	—
St. Louis . . . . .	428,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	148	57	14.28	15.64	1.36	3.40	1.36
Boston . . . . .	400,000	188	65	9.54	15.37	1.16	3.71	1.59
New Orleans . . . . .	242,750	114	34	18.48	15.84	10.56	2.64	—
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
District of Columbia . . . . .	210,000	76	31	14.52	2.64	2.64	1.32	1.32
Pittsburgh . . . . .	210,000	93	52	17.28	23.76	—	2.16	6.48
Montreal . . . . .	186,257	—	—	—	—	—	—	—
Milwaukee . . . . .	170,000	60	35	14.76	11.48	—	3.28	8.20
Providence . . . . .	121,000	49	16	18.36	14.28	—	4.08	10.20
Richmond . . . . .	100,000	30	12	13.33	16.66	—	3.33	3.33
New Haven . . . . .	80,000	—	—	—	—	—	—	—
Nashville . . . . .	65,000	—	—	—	—	—	—	—
Charleston . . . . .	60,145	34	7	8.82	17.64	—	—	8.82
Portland . . . . .	40,000	9	0	—	—	—	—	—
Worcester . . . . .	68,383	27	9	10.20	15.00	—	10.20	—
Lowell . . . . .	64,051	—	—	—	—	—	—	—
Cambridge . . . . .	59,600	25	11	20.00	30.00	—	5.00	15.00
Fall River . . . . .	56,863	26	7	3.85	7.70	—	—	—
Lynn . . . . .	45,861	17	3	—	23.52	—	—	—
Lawrence . . . . .	38,825	23	9	13.05	8.70	—	—	—
Springfield . . . . .	37,577	10	3	20.00	20.00	—	10.00	10.00
New Bedford . . . . .	33,393	16	3	6.25	18.75	—	—	—
Somerville . . . . .	29,922	6	—	—	37.33	—	—	—
Salem . . . . .	28,084	10	3	20.00	10.00	20.00	—	—
Holyoke . . . . .	27,894	9	3	—	33.33	—	—	—
Chelsea . . . . .	25,709	13	1	7.69	15.38	7.69	—	—
Taunton . . . . .	25,574	10	—	—	10.00	—	—	—
Haverhill . . . . .	21,795	10	—	—	—	—	—	—
Gloucester . . . . .	21,713	7	—	14.28	14.28	—	—	—
Brockton . . . . .	20,783	8	2	—	25.00	—	—	—
Newton . . . . .	19,759	5	1	—	40.00	—	—	—
Malden . . . . .	16,497	5	—	—	30.00	—	—	—
Fitchburg . . . . .	15,375	5	—	—	50.00	—	—	—
Waltham . . . . .	14,609	2	1	—	—	—	—	—
Newburyport . . . . .	13,716	5	1	—	—	—	—	—
Northampton . . . . .	12,896	—	—	—	—	—	—	—

Deaths reported 2,295; under five years of age 839; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fever) 388; acute lung diseases 387; consumption 364; diphtheria and croup 110; measles 37; diarrheal diseases 41; scarlet fever 27; typhoid fever 21; whooping-cough 15; cerebro-spinal meningitis 10; erysipelas five; malarial fever nine; puerperal fever nine. From scarlet fever, New York 13, Pittsburgh four, Philadelphia and Boston, three each, Baltimore two, District of Columbia and Milwaukee one each. From typhoid fever, Philadelphia eight, Baltimore four, Boston, District of Columbia and Lawrence, two each, Pittsburgh, Fall River and Gloucester one each. From whooping-cough, Baltimore four, New York and Philadelphia, three each, Milwaukee two, Pittsburgh, Providence and Lawrence one each. From cerebro-spinal meningitis, New York five, Milwaukee two, Richmond, Baltimore, and Springfield, one each. From malarial fevers, New Orleans six, District of Columbia three. From puerperal fever, Philadelphia and Pittsburgh, two each, Boston, Baltimore, Cambridge, New Bedford and Newton, one each. From erysipelas, Philadelphia two,

Richmond, District of Columbia and Providence one each. From small-pox New York five. Pittsburgh one case of small-pox.

Cases reported in Boston: measles 60, diphtheria 25, scarlet fever 22, and typhoid fever 15.

In the 19 cities and greater towns of Massachusetts, with a population of 949,534 (population of the State 1,941,463) the total death-rate for the week was 22.18 against 21.95 and 22.22 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending April 2d, the death-rate was 21.6. Deaths reported 3,831; infants under one year of age 867; acute diseases of the respiratory organs (London) 417; measles 239, whooping-cough 105, scarlet fever 37, diphtheria 32, diarrhoea 32, fever 25.

The death-rates ranged from 14.6 in Brighton to 33.1 in Blackburn; Birmingham 18.6; Bradford 17.2; Hull 22.0; Leeds 23.1; Leicester 20.0; Liverpool 20.5; London 19.7; Manchester 28.7; Newcastle-on-Tyne 22.2; Nottingham 30.7; Sheffield 23.1. In Edinburgh 21.6; Glasgow 23.4; Dublin 31.3.

The meteorological record for the week ending April 16, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Apr. 16, 1887.	Barom- eter.	Thermometer.		Relative Humidity.		Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.				
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount inches.			
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount inches.			
Sunday,....10	29.942	65.0	80.0	52.0	55.0	32.0	55.0	47.0	W.	W.	W.	14	14	12	F.	C.	C.	—	—
Monday,....11	29.966	58.0	75.0	46.0	49.0	44.0	61.0	51.0	W.	W.	N.	8	19	16	O.	F.	O.	—	—
Tuesday,....12	30.309	40.0	47.0	37.0	54.0	56.0	70.0	69.0	N.	E.	E.	8	12	1	C.	O.	C.	—	—
Wednes.,....13	30.364	37.0	42.0	33.0	52.0	54.0	45.0	56.0	N.E.	S.E.	N.	14	8	13	O.	C.	C.	—	—
Thursday,....14	30.205	40.0	46.0	30.0	35.0	45.0	39.0	39.0	N.	E.	S.E.	8	12	6	C.	C.	C.	—	—
Friday,....15	30.012	41.0	45.0	33.0	51.0	57.0	47.0	52.0	N.E.	E.	S.	4	8	7	C.	F.	R.	3	—
Saturday,....16	29.623	39.0	43.0	36.0	99.0	94.0	87.0	93.0	E.	N.E.	N.	14	13	12	R.	C.	C.	14	.46
Mean, the Week.	30.060	46.0	54.0	38.0				56.0										17½	.46

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; SL, Sleet.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 16, 1887, TO APRIL 23, 1887.

**MOSKLEY, EDWARD B.**, captain and assistant surgeon. Ordered for duty at Whipple Barracks, Ariz. S. O. 89, A. G. O., April 18, 1887.

#### APPOINTMENTS.

**CHARLES E. WOODRUFF** and **JULIAN M. CARROLL**, to be assistant surgeons with the rank of first lieutenant, to date from April 14, 1887.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 23, 1887.

**RUSSELL, A. C. H.**, passed assistant surgeon. Ordered to duty at Naval Laboratory, New York, May 2, 1887.

**HEFFNER, A. C.**, passed assistant surgeon. Ordered to Widow's Island, Me., to superintend building a naval hospital, wharf, and other improvements under instructions of the surgeon general of the Navy.

**WOODRUFF, CHAR. E.**, assistant surgeon. Resignation accepted to take effect April 8, 1887.

#### SOCIETY NOTICES.

**BOSTON MEDICAL ASSOCIATION.**—The Annual Meeting will be held at 19 Boylston Place, on Monday, May 2, at 4 P.M. Election of officers.

**WILLIAM D. HODGES, M.D., Secretary.**  
220 Clarendon St., April 25, 1887.

**SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.**—There will be a meeting of this Section at 19 Boylston Place, on Tuesday evening, May 24, at 8 o'clock. Dr. S. J. Mixer will report a "Case of Tumor of the Breast." Dr. E. G. Brackett will make a communication on the "Experimental Value of Dow's Splint." Dr. E. O. Otis will read a paper on "Injuries of and Operations upon the Kidney."

**G. H. MONKS, M.D., Secretary.**

**BOSTON SOCIETY FOR MEDICAL OBSERVATION.**—A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday evening, May 24, at eight o'clock. Readers: Dr. A. F. Holt, "A Case of Acute Red Atrophy of the Liver." Dr. O. F. Wadsworth, "A Case of Recurrent Paralysis of the Third Nerve."

**CHARLES F. STRONG, M.D., Secretary.**

**SUFFOLK DISTRICT MEDICAL SOCIETY.**—The annual meeting will be held at 19 Boylston place, on Saturday, April 30, 1887, at 7.45 P.M. Papers: Dr. E. G. Cutler, "Three Cases of Dyspepsia." Incidental business: Action on the proposed Amendment to By-Law XV by the addition of the following clause: "The nominating committee is requested to report annually the names of one-fifth of the candidates for members of the Council from Fellows who have not held the office of Councillor during the three preceding years." Reports of the Treasurer, Librarian, and the Committee on Social Meetings. Election of officers. Supper after the meeting.

**HERBERT L. BURRELL, M.D., Secretary**

**ASSOCIATION OF GENITO-URINARY SURGEONS.**—The first annual meeting of this Association will be held at the Laurel House, Lakewood, N. J., May 17 and 18, 1887.

**R. W. TAYLOR, M.D., New York, Temporary Secretary.**

#### ERRATUM.

The name of the author of the article on "The Circulation of the Blood in the Orbit. Studied by means of the Plethysmograph," page 269 of the last issue of the JOURNAL, should have read F. W., and not W. F. Ellis.

#### APPOINTMENT.

Dr. J. Orne Green has been appointed Aural Surgeon to the Massachusetts General Hospital.

#### OBITUARY. JOHN SYDENHAM FLINT, M.D.

Dr. John S. Flint, of Roxbury, Mass., died on Saturday, April 16th, at the age of sixty-three, from double pneumonia, after an illness of four or five days. He was born in Leicester, Mass., and graduated from Harvard College in 1843, and from the Harvard Medical School in 1846. He was of a medical family, his father having been a physician; he was also related to the late Dr. Austin Flint, of New York. The greater part of his professional career was passed in Roxbury, where he enjoyed an excellent practice.

#### BOOKS AND PAMPHLETS RECEIVED.

Annual Report of the Board of Health of the City of Brockton. 1886.

On Cataract Extraction without Iridectomy. By H. Knapp. 1887. (Reprint.)

Notes on Minor Surgery. Edward O. Otis, A.B., M.D., Boston, 1887. (Reprint.)

The Second Annual Report of the Board of Health of the City of Hartford, Conn. 1887.

Report of the Special Committee on the Disinfection of Rags. American Public Health Association. 1886.

Announcement of the Twenty-Ninth Annual Session of the Long Island College Hospital, Brooklyn, N. Y. 1887.

Seventy-Third Annual Report of the Trustees of the Massachusetts General Hospital and McLean Asylum. 1886.

Hystérie et Traumatisme. Paralyties, Contractures, Arthralgies, Hystéro-traumatiques. Par le Dr. Paul Berbez. Paris, 1887.

Ninth Annual Report of the Presbyterian Eye, Ear and Throat Charity Hospital, No. 1007 East Baltimore Street, Baltimore. 1886.

Anatomy, Descriptive and Typographical in 625 Illustrations. By Carl Heitzmann, M.D. English Edition by Louis Heitzmann, M.D. Vienna: W. Braumüller. New York: J. H. Vall & Co. London: Dulau & Co. 1887.

A Text-Book of Pathological Anatomy and Pathogenesis. By Ernst Zeigler, Professor of Pathological Anatomy in the University of Tübingen. Translated and Edited for English Students, by Donald Macalister, M.A., M.D. Three parts complete in one volume. New York: Wm. Wood & Co. 1887.

## Original Articles.

## DEATHS FROM GONORRHEA.

BY ANNE POST, M.D.

In looking over the literature of gonorrhoea I have been particularly impressed by the many fatal cases recorded, and the variety of ways in which the fatal termination may be brought about. Every surgeon realizes the immense death-rate from strictures which owe their origin to a gonorrhoea of many years previous, but the fact that death occurs from the acute disease is seldom realized and may even be novel to many. I have taken pains to bring together a series of cases to illustrate the possibility of such an accident and the various means by which it occurs. To judge the disease from such a collection as is here presented would be entirely unfair, but it is not unfair to represent the disease in its most serious aspect as an offset to the trivial way in which it is so often regarded.

Some of the following cases illustrate improprieties in the conduct of the disease, but they serve my purpose well, for some at least, of the severest cases owe their severity to improper conduct on the part of either physician or patient. It cannot be far from the truth, to say that a very large proportion of the severe complications of the disease are directly brought about by some impropriety.

As confined to the anterior urethra, that is, the urethra anterior to the compressor urethrae muscle, the disease is ordinarily harmless, so far as immediate danger goes; yet even here fatalities occur. Voillemier<sup>1</sup> reports a case:

A man with a urethritis and a very painful chordee "broke" the chordee in true French fashion and died of purulent infection. At four and one-half centimetres from the meatus was a complete rupture of the canal, and the cavernous bodies were almost completely destroyed by suppuration.

Another case occurred in the practice of Villeneuve.<sup>2</sup> The patient was suffering from "intense chordee and continual erection, to relieve which twenty leeches were applied. Two days after a scab formed on the most prominent part of the curve; when it fell off the corpora cavernosa were exposed for a length of three or four centimetres. Rigors, pains in the joints of the upper extremities, purulent effusion into the left elbow joint and delirium followed, with arterial hemorrhage from the slough on the penis, which caused the patient's death. Phlebitis of the prostatic plexus, metastatic abscesses in the left lung and liver, and pus in the elbow-joint were found after death." Pyæmia is one of the most frequent of the fatal terminations, and follows prolonged suppuration due primarily to gonorrhoea in other portions of the genito-urinary tract, as we shall have abundant opportunity to see later.

When the disease extends beyond the mid-urethral sphincter, as it so often does, it opens up a field of greater danger. In the prostatic gonorrhoeal inflammation may be follicular when it is one of the causes of obstinate gleet; or parenchymatous abscesses may form, which may open externally, into the rectum, or the urethra, or in any two of these three

directions. When the pus is discharged through the urethra the symptoms usually vanish with great rapidity. Not unfrequently, however, according to Fournier, the suppuration from a prostatic cavity continues indefinitely and proves fatal after a long period of suffering and cachexia. Dr. Pitman, of St. George's Hospital, reports a case in which the death was rapid.

John E., aged twenty-five, a baker, was admitted April 25th to St. George's Hospital. He had had gonorrhoea for a fortnight, with pain across the loins. Four days before admission the pain increased in severity, and extended down the legs so that he had to discontinue work. He never had any chills. On admission he had much the aspect of a fever patient. He was unable to pass urine except with the aid of a catheter. May 1st, he was delirious with involuntary evacuations. Eight days after admission he died.

*Post-mortem.* The body was in good condition; there was profuse purulent discharge from the urethra which had collected about the glans penis. The right kidney was healthy, in the left the pelvis and ureter were rather more vascular than usual. Peritoneum healthy. The mucous membrane of the urethra seemed slightly injected in parts, but this appearance was so slight that little reliance could be placed upon it. The muscular fibres of the bladder seemed rather thicker than natural, but showed no trace of inflammation. Between the bladder and the rectum was a large abscess which at the time of the examination communicated with the floor of the prostatic urethra by two ragged orifices. The tissue of the prostate gland was extensively destroyed and eroded by the abscess, and on squeezing the abscess, pus could be made to exude by the prostatic ducts; but in parts near the abscess the tissue of the prostate seemed healthy. The cellular tissue in the neighborhood of the abscess was condensed; in other parts of the pelvis it was healthy.

The account allows us to wonder whether the abscess might not have been due to punctures from the catheter. Be that as it may, the dependence of death upon the gonorrhoea would be undisputed.

In these cases the suppuration itself seems to have been directly the cause of the fatality. It is more often the cause which sets in action some secondary cause. In the *Annales des Maladies des Organes Génito-Urinaires*, (Volume II, No. 9,) is a case in which the abscess of the prostate was followed by pyæmia. A man had had four years previous his first gonorrhoea which lasted six or seven weeks. Two months previous to the date of narration he contracted a second which was nearly well when retention of urine appeared. Catheterism was performed with the effect of causing marked bleeding which continued at intervals for three or four days, until his entrance to the Hospital Necker, under the care of Guyon, where he died shortly, with partial suppression, albuminuria, and uræmia. Autopsy showed the prostate to be the seat of a parenchymatous abscess, which was the cause of the retention, and the posterior urethra was torn by the point of the catheter. The bladder showed in the vicinity of the neck and the trigone very marked inflammatory alterations, the right ureter was dilated and corresponding kidney was intensely congested. There were metastatic abscesses in the lungs, the liver and other organs.

Lallemand gives a case of a man who had frequent

<sup>1</sup> Voillemier, p. 9, Case 8.  
<sup>2</sup> Gazette Hebdom., 1873, p. 213. Quoted in Milton on Gonorrhoea, p. 215.

attacks of gonorrhœa, and died with an abscess of the prostate, and pyelo-nephritis.

Occasionally, gonorrhœal cystitis is succeeded by pyelitis, the inflammation creeping up one or both of the ureters to involve the kidneys. This process is recognized more frequently since infection from external sources has come to play so great a rôle in surgical pathology.

Dr. Murchison reports the following cases: Stephen H., aged twenty-eight, a grocer's assistant, was admitted to the London Fever Hospital on June 4, 1885, in a state of profound coma, with low muttering delirium and dry brown tongue. Three hours after admission he died, having had several attacks of general convulsions. The symptoms obtained were of little value. After his death it was ascertained that he had been suffering for some time from gonorrhœa, for which he had been taking copaiba, and that the cerebral symptoms had come on suddenly only thirty hours before admission. In fact, he had gone to his employment on the morning of the day before admission into hospital.

After death the entire length of the urinary passage from the anterior end of the urethra to the pelves of the kidneys, was found to be in a state of intense inflammation, the mucus membrane being tightly injected and its surface bathed with pus. Both ureters were full of thick, yellow pus. The kidneys were much enlarged, but their outer surface was quite smooth; they were of a deep purple almost black hue and a quantity of dark blood dripped from their cut surface.

Marie D., lady's maid in a nobleman's family, was admitted into the London Fever Hospital on January 31, 1866, quite unconscious; her breathing became stertorous, the stupor more profound, and she died February 2d.

After death it was ascertained that she had appeared well during the day before admission, having travelled on that day from Paris with the cook, who served in the same family. On reaching London in the evening she ate a good meal, but during the night she wandered a good deal, and on the morning of January 31st, she had a convulsive fit followed by unconsciousness.

At the post-mortem the membranes and substance of the brain were found to be intensely hyperæmic, but there was no exudation of lymph and no sign of tubercle within the cranium or lungs.

Both kidneys were in the early stages of acute nephritis, large, smooth and almost black from intense congestion. The ureters and the pelves of the kidneys were full of thick yellow pus, the bladder also contained pus. The lining membrane of the vagina, the urethra, bladder, ureters and pelves was intensely red.<sup>3</sup>

DeLafield has seen one similar case. The patient was a prostitute who came into the hospital with specific (that is, gonorrhœal) vaginitis. After a few days she developed symptoms of an acute cystitis; after a few more days she was attacked with rigors and a febrile movement, passed rapidly into the typhoid condition and died. At the autopsy there were found acute cystitis, pyelitis, and numerous small abscesses in both kidneys.

At the discussion on Dr. Murchison's cases, Dr. Greenhow mentioned a similar case which he saw when he was a student at Edinburgh. A man died in

a state of coma of thirty-six hours' duration. He was supposed to have been poisoned, but was the subject of gonorrhœa, for which he had been taking copaiba, and using injections. Sir William Newbiggin attributed the death to cerebral metastasis from gonorrhœa checked by treatment.

In the summer of 1885 I was asked to examine for stone, the bladder of a young boy suffering from cystitis; he denied gonorrhœal antecedents and his history as given warranted a suspicion of calculus. The examination was made. It was followed by an exacerbation of symptoms, and a pyelitis became evident.

After some months of suffering the boy died, evidently of pyelitis, though no autopsy was obtained. During his sickness a more rigid cross-examination elicited the fact that the cystitis was gonorrhœal. Of course the examination ought not to have been made, the history of gonorrhœa ought to have been learned at first. I am not sure that the disease had not already extended up the ureters when the examination was made, but the increase in severity of symptoms followed very closely on the examination, and the case may well stand as an illustration of the impropriety of meddling recklessly with an inflamed bladder. The ease with which such an error may occur, was illustrated within a very few days. A little boy of thirteen was referred to me at the City Hospital for examination for stone, by a gentleman whose diagnostic ability in urinary cases is well recognized. The boy complained of pain at the end of micturition and the occasional passage of blood in small amounts. He was undersized and looked much less than his years. The house-surgeons recognized him as a recent victim of gonorrhœa, and a more careful review of the case established the diagnosis of gonorrhœal cystitis.

Peritonitis and subperitoneal phlegmon ought to be joined to the number of the possible complications of gonorrhœa.<sup>4</sup> These accidents are the remote effects of gonorrhœal inflammation propagated from the urethra to the peritoneum or to the subperitoneal cellular tissue through the intervention of the deferent canal, the vesiculae seminales, the prostate, perhaps from the bladder, the ureters, or the kidneys and from the cellular atmosphere which surrounds them, so that gonorrhœal peritonitis may begin at various points in the pelvic region, at the recto-vesical cul-de-sac, at other times from the internal orifice of the inguinal canal and will always be preceded by more ordinary complications. Peritonitis after inflammation of the cord was observed by Hunter, and Ricord is said by Fournier<sup>5</sup> to have observed it many times. Ricord is also reported by the same authority to have seen two cases in which gonorrhœal inflammation of the prostate was propagated to the peritoneum, causing at first a pelvic peritonitis which became general and terminated fatally.<sup>6</sup>

The following case is interesting as bearing upon the subject under consideration and also from the distinguished names attached to it.

L. L., aged sixteen, entered the Hospital la Charité June 4, 1856, in the service of M. Velpeau, for a left blennorrhagic epididymitis. The gonorrhœa had lasted fifteen days and the epididymitis five days. The epididymitis proceeded rapidly towards resolution and the discharge had ceased when the patient was taken

<sup>4</sup> Faucon. De la péritonite et du phlegmon sous-péritonéal, d'origine blennorrhagique. Arch. Gen. de Méd., 1857, vol. ii, page 345 et 366.

<sup>5</sup> Non. Dict. V. p. 214.

<sup>6</sup> Non. Dict. V. p. 203.

<sup>3</sup> Clin. Soc. Trans. Vol. IX, 1876.

with chills and general malaise and vomiting. On the 17th the patient was transferred to the medical service of M. Cruveilhier, and on the 21st he died of peritonitis. The autopsy showed a generalized peritonitis. Pus exuded from the prostate. The left vesicula seminalis contained a small quantity of purulent liquid. That vesicula was larger than the right, and the cellular tissue which surrounded it was very injected and thickened. The deferent canal was greatly injected as well as the surrounding cellular tissue, and it adhered closely to the peritoneum which covered it. The peritonitis had started from the recto-vesical cul-de-sac.

It does not seem very hazardous to say that some, at least, of the cases of peritonitis in the male, of unknown or supposed idiopathic origin may have arisen from gonorrhoea, in one of the many ways mentioned.

Gonorrheal rheumatism opens up a long list of serious cases, though fatal cases are uncommon. But a short time ago the comparative table of the symptoms of gonorrheal and ordinary acute rheumatism, which is almost inseparable from an account of gonorrheal rheumatism, used to specify that gonorrheal rheumatism did not attack the heart. That is no longer considered a characteristic of the gonorrheal disease. In 1854, Brandes, of Copenhagen, reported a case of endocarditis, and at least sixteen cases had been reported up to 1883, the date of Mr. Milton's book, in which the cases are collated. Of these, two were fatal. One is given by M. Tixier from the practice of M. Lorain. "There was cardiac complication with bellows sound; also disturbance of circulation, succeeded by signs of mitral insufficiency, with considerable hypertrophy, all following upon blennorrhagia with rheumatic pain. Later on came asystole succeeded by death from cardiac disease."

In 1833, Mr. Stanley published the paper on "Irritation of the Spinal Cord and its Nerves, in Connection with Disease of the Kidneys," on which was founded the theory of a reflex urinary paralysis. In that paper were narrated two cases in which complete motor paralysis involving the lower extremities and the sphincter, together with loss of sensation, ensued upon gonorrhoea; one was fatal in sixteen hours, the other in about a fortnight with sloughing.

Many other instances of supposed reflex paraplegia following upon gonorrhoea, some of which have ended fatally and some in recovery, are scattered through medical literature. Sir W. Gull has shown that these cases of supposed reflex paralysis from gonorrhoea really depend upon distinct inflammatory changes in the cord, appreciable with the microscope, and that these changes are produced by means of an infection whether purulent or specific. Two of Gull's cases are as follows.<sup>2</sup>

The patient contracted gonorrhoea eight months previous. On January 18, 1855, he thinks he slept in a damp bed and three days afterwards began to have pain and weakness in the legs, and about the neck and occiput. On the 26th, he had a rigor and the weakness of the legs was rather suddenly increased with loss of sensation about the ankles and formation. Incontinence of urine came on at the same time with bed-sores, frequent involuntary spasms of both legs, etc. He died rather suddenly May 16th, four months from the beginning of his symptoms. To the

naked eye the cord showed no changes, but extensive disorganization was evident, was shown by the microscope.

Henry F., aged twenty-one, had gonorrhoea many times and a permanent gleet. He was quite well on Tuesday morning, March 1, 1833. In the afternoon he began to have pain between the shoulders, and diarrhoea. Pain in the back increased during the night and spasmodic tremblings in the legs. On March 4th, at Guy's Hospital under Mr. Bransby Cooper, the following condition was found: complete loss of motion below the sixth dorsal vertebra; the muscles of the seventh intercostal space did not act in respiration; sensation was perfect above the line indicated, but on the abdomen pricking the skin gave no pain and only the faintest sensation; in the legs there was complete anaesthesia. A fortnight later he died, exhausted by irritative fever and sloughing. The cord was generally softened as high as the middle of the dorsal region. Between the bladder and rectum there was an irregular abscess, with sloughing walls, communicating with the bladder by a large perforation of its coats. Near the bulb was a more recent abscess filled with healthy pus.

If these two cases of Gull's stood alone, the association between gonorrhoea, and the changes in the cord and death might be regarded as accidental, but they belong to a series of cases sufficiently long to be quite convincing.

We have seen pyæmia as a frequent cause of death in various complications. Sometimes, however, purulent infection takes place without other appreciable lesion than the gonorrhoea itself. Mr. Milton makes an especial heading of gonorrheal pyæmia under which he relates two cases, one from Dr. Charteris,<sup>3</sup> a boy of seventeen with his third case of gonorrhoea with retention of urine for which no cause is given. He died with the usual symptoms of pyæmia and with purulent collections in both shoulder-joints. The second was a man of thirty whose gonorrhoea had already lasted two years.

No attempt has been made to include every published case of fatal gonorrhoea in this list. These are rather some of the cases that have fallen under my notice, and which have been selected to represent the many ways in which the disease may prove fatal. The list might have been very materially — I am tempted to say indefinitely — increased. The results of stricture have been purposely omitted, as well as those numerous cases peculiar to women, in which pelvic inflammation consequent on gonorrhoea wears out the patient with months of suffering.

In these cases the ages are rarely given, but the number of times in which the victim is said to have been a boy under twenty is noticeable. I am inclined to believe that the disease is often exceedingly severe in the precocious youths who acquire it while yet in their early teens. Some of these boys are rather wanting in physical development, and some, at least, would be described as scrofulous — a class exceedingly prone to a severe type of urethral inflammation.

Extended travelling, as in the case of the lady's maid of Murchison's case of pyelitis, is to be feared during the acute disease. It hardly seems possible that the rapid death of that young woman could be attributed solely to her journey from Paris to London; but serious difficulties, short of death, occur often enough

<sup>1</sup> Milton on Gonorrhoea, p. 316.

<sup>2</sup> Medico-Chirurg. Trans. t. xxxix, p. 200. 1856.

<sup>3</sup> Brit. Med. Journal, 1876. Vol. ii, p. 712.

under similar circumstances to make a journey of any length particularly undesirable. Some of the more active occupations entail similar unpleasant consequences.

Finally, these cases serve to emphasize the fact that gonorrhea may be an exceedingly grave disease, which does not exhaust itself in the urethra, and that its possibilities render it an object worthy of study by the conscientious student, and of honest care by the attending physician.

#### A CASE OF HODGKINS' DISEASE.<sup>1</sup>

BY HAROLD WILLIAMS, M.D.

I was called, July 10, 1886, to see Mr. D., a young gentleman, twenty-seven years of age, a chemist by profession, and married. He had been ill since May, 1886, and had come to Nantucket in June, 1886, with the hope that a change of climate might prove beneficial. The history of his illness was nearly as follows: In May, 1885, while out walking, Mr. D. suddenly felt dizzy, and his vision became defective. He walked home with difficulty, his difficulty in locomotion being due, he thought, to an inability to hold himself erect. Previous to this he had been perfectly well. There was no history of malaria nor syphilis. A few days later Mr. D. became totally deaf, and, at this time, a swelling made its appearance over the inner malleolus of the left leg. This swelling increased in size; was intensely painful, and was of a bluish color, but subsided at the expiration of ten days. There was no injury. As the swelling at the ankle began to subside, several smaller swellings appeared in both legs and thighs. These smaller tumors also disappeared, and were, in their turn, followed by a swelling as large as an orange in the right buttock. At this time there was paralysis of the left leg and thigh. This swelling in the buttock slowly diminished in size for three weeks, when it again increased, and again diminished. His physician told him that his spleen was enormously enlarged; and one oculist who was consulted said that his impaired vision was due to hemorrhage, while a second oculist assured him that there had been no hemorrhage. This takes us up to Christmas, 1885, on which day the patient went out-doors. After this there was gradual improvement, though it is probable that the swelling in the buttock never totally disappeared, and the deafness still persisted, though slightly improved.

On July 10th, when I first saw the patient, he was in bed. He complained of much pain, and was so deaf that I could scarcely make him understand me. His body was well nourished; the lips were red, the fingernails pink, and there was no appearance of leucæmia. Pulse 89, temperature 102°. There were three tumors: one on the left side of the thorax, bounded by the sternum, the third rib, the posterior axillary line, and the eighth rib. This was the largest, and I considered it the forward extension of enlarged axillary glands. The second was in the neck, extending downward beneath the left clavicle, and upward to a point two inches above it. I could not estimate its lower boundary, because of the pain caused by percussion. The third tumor was in the right buttock, and seemed to lie above the gluteus maximus. It was as large as

a very large orange. These tumors were very hard to the touch, and the skin over them was of a reddish-blue color, hot and painful, but movable. There was enlargement of the spleen, huskiness of speech, slight difficulty in swallowing, and defective vision. The patient was taking iodide of potassium and small doses of morphia, to relieve pain. This treatment I continued.

On the following day the patient was much worse, and in the afternoon I found him in a semi-comatose condition, from which it was difficult to rouse him. He had vomited at different intervals throughout the day, and there was much difficulty in swallowing and articulation. Pulse 150, and very feeble; respirations 40. The condition of the tumors seemed, outwardly, the same.

The vomiting, feeble and rapid pulse and respiration, and the disturbance of the functions of the larynx, seemed to me to denote pressure by the tumor in the neck on the deep-lying nerves of the trachea, and I warned the family that I considered the case nearly hopeless. Brandy and coffee were given by the rectum.

Instead of dying, as I expected, the patient rallied, and for three days there was slight amelioration of the symptoms, though the tumors seemed outwardly the same. At this time I prescribed Fowler's solution in ℞. doses, three times a day, to be increased up to ℞.ss. After this there was constant improvement, although, as the glands subsided, a condition of extreme leucæmia, with furuncles and a carbuncle, supervened. The patient was of a waxen hue, his lips were colorless, and the nails white. To the naked eye, the blood seemed barely tinged with red, and, under the microscope, showed a marked change in the proportion between the red and white corpuscles. As no proper apparatus was at hand, I could merely estimate by what Osler calls "the rough and ready method," that the white corpuscles seemed nearly as numerous as the red.

In October the patient considered himself perfectly well, and there were no symptoms or signs of his illness, with the exception of the deafness, which, though much diminished, was still a cause of serious annoyance.

This case I consider to have been one of Hodgkins' disease, or pseudo-leucæmia lymphatica, followed by leucæmia.<sup>2</sup> The diagnosis would seem to lie between lymphatic leucæmia and pseudo-lymphatic leucæmia, and is based upon the pathological condition of the blood, and upon clinical differences. In lymphatic leucæmia there is an increase of the white corpuscles, and in pseudo-lymphatic leucæmia there is little or no such increase. In the present case no such analysis was made, but nothing in the aspect of the patient suggested such an increase until the swelling of the glands began to subside. But, on the other hand, the absence of the external appearances of leucæmia; the absence of hemorrhages and diarrhoea; and the enormous swelling of the glands, would seem to indicate Hodgkins' disease. In either case the prognosis is unfavorable, and doubly so in a case of such long duration as the present.

I have ventured to report this case, in spite of the imperfection of my notes, because it seems to me to demonstrate the decided advantage following the administration of large doses of arsenic, prescribed as it was in this instance, to a patient who had been ill for a period extending over fourteen months. The idea

<sup>1</sup> Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, March 9, 1887.

<sup>2</sup> Vide case of Fleischer and Ponzoldt, quoted by Osler in *Pepper's Syst. Med.*, Vol. III, p. 682.

was suggested to me by an article by Karnvski,<sup>3</sup> who, in 1884, reported three recoveries under this treatment. The arsenic was given in gradually-increasing doses, until the dose of  $\text{mxx}$  t.i.d. was reached, in which quantity it was continued until there was puffing of the eyelids and nausea. Then it was replaced by quinia and iron for a week, when it was again resumed in the same manner.

This treatment has been continued in gradually-decreasing doses up to the present time, the patient now taking  $\text{miii}$  of the Fowler's solution, t.i.d., every other week. I have not seen him since October, 1886, but in a letter I received from him last week, he reports: "I am perfectly well, with the exception of my deafness, and weigh 170 pounds — not a bad weight for a man of my size."

Primary Cytogenic Anæmia	Leucocytic	{ Splenic Lymphatic Medullary	Leucæmia.
	Non-Leucocytic	{ Splenic Lymphatic Medullary	
			Hodgkins' Disease, Lymphatic Anæmia.

### Clinical Memoranda.

#### A CASE OF ALEXANDER'S OPERATION.<sup>1</sup>

BY JOHN B. SWIFT, M.D., OF BOSTON.

Mrs. B. came under my care at the Carney Hospital, March 18, 1886, with the following history: She was thirty-seven years old, born in Canada, and had had one child. The labor was a severe one, and she had been torn. Since then she had suffered from "falling of the womb," the organ coming outside. By various means she had kept it up, so that she could work, until the friction caused by the bandages had rendered the parts sore, and she would be obliged to stop work until the abrasions had healed. Lately, she had been wearing a cup-shaped pessary, but with no better success.

An examination showed rupture of the perineum to the sphincter ani, bilateral laceration of the cervix, a small recto-vaginal fistula, and complete procidentia of the uterus. The cervix was hypertrophied, excoriated, and there was a deep ulceration of the tissues, caused by the rim of the pessary which she had been wearing.

The uterus was replaced and held in position by cotton tampons, wet with glycerine and tannin, and the patient kept in bed until the excoriated mucous membrane had healed. Attempts were then made to keep the uterus in place by various pessaries, but without success, and finally, it was decided to perform the Alexander operation of shortening the round ligaments. The operation was explained to the patient, and she readily consented. Owing to the extensive laceration of the cervix, and the hypertrophy of the uterus, it measuring almost four inches, it was thought best to first repair the cervix, hoping, by this means, to reduce the hyperplasia, and thus lessen the weight, so as to give a better chance for success in the succeeding operation. This was done April 17th, and resulted successfully.

Three weeks later, with the assistance and advice of Dr. F. B. Harrington, the Alexander operation was performed.

I will not enter into the details of the operation, as they probably are familiar to you all, but will only say that the ligaments were easily found, and shortened about two inches. By drawing on the ligaments, the uterus readily ascended in the pelvis, and was held in position by Dr. Harrington while the ligaments were being secured. They were not cut, but were folded and tucked into the wound, being fastened by silk sutures passed through the pillars of the ring and the tissues at the bottom of the wound. The incisions through the skin were closed by catgut sutures, and the wounds dusted with iodoform and dressed with sublimate gauze.

As there was no perineum, it was feared that a pessary would not stay in place, so the vagina was packed with cotton pledgets, and a T-bandage adjusted. The catamenia, which had never been regular, came on the second day after the operation, and the packing had to be removed, a pessary being substituted, which proved, in the end, to work successfully.

For three days the patient was nauseated continuously, and vomited everything taken by the mouth. She was nourished by enemata. Hyperdermic injections of morphia and atropia over the stomach were given for the nausea, but whether or not they did any good, I cannot say. At any rate, on the fourth day she could retain food, and from that time on had no further trouble.

The temperature was never above the normal, and, aside from the vomiting, the convalescence was uninterrupted. She was kept in bed for three weeks, and then allowed to sit up, but she did not walk any for another week. At the end of that time the pessary was removed, and she was allowed to go about and do light work. On my visit, the next day, I was told that the uterus had again descended; but an examination showed that what was considered the uterus, was the anterior vaginal wall, which was prolapsed. The uterus was in good position, and held firmly in place.

It was decided not to repair the perineum at that time, but to wait and see if the uterus would remain in place without this additional support. This was explained to the patient, and she was told to return at once, should there be any indication of the old trouble. She came to the hospital last September, about four months after the operation, saying that she was all right, and had been doing house-work. An examination showed the uterus just as it was on her discharge from the hospital, well up in the pelvis, slightly anteverted. The prolapse of the anterior wall, of course, was the same, but she declined the perineal operation, saying that she was well enough as she was.

— Hartmann describes in the *Berliner Klin. Wochenschrift*, 1886, p. 612, the results of some experiments in the self-induction of edema and albuminuria, by the exclusive use of certain forms of nourishment for a given time; for instance, he ate chestnuts, lentils, peas, cheese, etc., each for a series of days, and with no other ingestum but water. He twice produced general edema, once with and once without albuminuria; the former, under an exclusive diet of sausages, the latter with bread only, (1,000 grams in twenty-four hours). The uncomfortable symptoms which the enthusiastic experimenter induced all passed away with a return to ordinary methods of living.

<sup>1</sup> Read before the Section of Obstetrics and Gynecology of the Suffolk District Medical Society, February 16, 1887.

<sup>3</sup> Berl. Klin. Wochens., 1884.

# A CASE OF PERINEPHRITIC ABSCESS FOLLOWING TYPHOID FEVER; OPERATION; RECOVERY.

BY WILLIAM H. DEVINE, M.D.

E. F., a boy, six years of age, was the second case of typhoid fever in the same family, and was first seen by me November 9, 1886. There was nothing remarkable in the course of the fever, and convalescence began in three weeks. His mother permitted him to sit up before, and contrary to my orders, but said that he was feeling so well, she was unable to restrain him.

December 16th. I was called again to see my patient. His mother said that since my last visit, about two weeks previous, Eddie had been around the house, and seemed apparently as well as usual for about a week; then she noticed that he seemed languid and disinclined to exert himself. Later, she noticed a peculiar kind of lameness in the left leg, and that he kept it flexed when lying down, and that an attempt to straighten it, on her part, caused him great pain. She also thought that he was feverish at night, and said his urine was very scanty. On examination, I found extreme flexion, and any attempt to straighten it caused excessive pain. I also found marked tenderness and flatness in the left lumbar region. The urine was much diminished, only four ounces in twenty-four hours, but an examination of it revealed nothing especially abnormal.

On December 19th, I found the tenderness in the left lumbar region increased, and noticed some fullness. I decided to aspirate, and, doing so, I obtained about four ounces of thick, creamy pus. Having established the diagnosis, I determined to make a free opening, which I did on December 21st, with the assistance of Dr. E. O. Otis and Dr. F. Stuart. I made an incision about three inches long in the lumbar region, parallel with the vertebral column, and about two inches to one side of it, between the last rib and the superior crest of the ilium. After careful dissection I came upon the abscess-sac, and, on incising which, I evacuated about twelve or more ounces of pus. The cavity was thoroughly washed out with a solution of 1-60 carbolic acid, two drainage-tubes were inserted, one extending to upper, and the other to lower limit, and an antiseptic dressing of bichloride gauze applied, which was prepared, in the house, by soaking cheese-cloth in a solution of corrosive sublimate, of about one to two thousand strength, and drying it. On the day of the operation, the temperature was 103.5°. The next day it dropped to 101° in the afternoon, and 100° on the third day. After this it was normal, and continued so. The discharge of pus was profuse for the first week, and after that, gradually diminished. The cavity was washed out every day with an antiseptic solution, and an antiseptic dressing applied.

In two weeks from the date of the operation, the upper drainage-tube was removed, and about a week later, the lower one, when the wound quickly healed. Thus the boy was practically well in three weeks from the date of the operation. There was no evidence at any time of any renal trouble, in this case, to account for the abscess. The exciting cause, so far as one can fix upon any, might have been exposure during convalescence, for it is known that the boy was removed from the room in which he had been sick to one of a much lower temperature. It is known, also, that a sudden chill is an exciting cause, and further, that

perinephritis occurs during the course of, or as a sequel to, the continued and exanthematous fevers.<sup>1</sup>

This case well illustrates what can be accomplished by a timely and free exit of pus and proper antiseptic precautions, under very adverse circumstances, for the patient was in an extremely debilitated condition from his previous illness, and his surroundings were poor and unhygienic. Indeed, after I had determined on the condition and treatment required, I recommended the removal of the boy to the hospital, that he might have a more promising environment; but his parents refused, saying that he would die any way, and they preferred to have him die at home.

"When suppuration occurs," says Mr. Morris, "the prognosis depends chiefly upon two things: the early and free evacuation of the pus, and the cause of the disease. Incisions not only save life, but also hasten recovery, and in uncomplicated cases the recovery is complete." To the truth of this, the above case can testify.

## Reports of Societies.

### MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

MARCH 9, 1887. The meeting was opened at 8 o'clock, by Dr. F. I. KNIGHT, Chairman. On motion, the reading of the records of the last meeting was omitted.

#### PHYSICAL CULTURE.

A communication, in the form of a resolution from the Norfolk District Medical Society, upon the importance of the physical training of the young, was read by the Secretary, who called attention to the fact that this Society also had appointed a committee to act in concert with similar committees appointed by the sister medical societies, but that the committee from this District had as yet made no report, and it was not known whether anything had been attempted in the way of progress by the members of this Society.

Dr. HENRY I. BOWDITCH said that he considered this subject to be of the greatest importance, and one which should claim the earnest attention of all who are interested in the welfare of the rising generation. He had long been convinced that the State is not doing its duty toward the youth of both sexes in requiring an increasing amount of intellectual labor in the schools, without providing for the development of the physical constitution of the pupils. He moved the appointment of a committee of three, who should take the matter into consideration, and report at the next meeting. The Chairman stated that a committee had been appointed at a former meeting of the Section, and that it might be advisable to urge that committee to prepare a report, rather than to appoint a new committee. Dr. Bowditch then withdrew his motion.

Dr. KNIGHT said that, in his opinion, the Suffolk District Medical Society is the body which should take action upon the matter.

#### MILK SUPPLY.

The Secretary read a communication from one of

<sup>1</sup> Henry Morris. "Surgical Diseases of Kidney," p. 207.

the members of the Section, who was not able to be present, stating that the milk now supplied to the citizens of Boston is received by the consumer at a time when it is from forty-eight to seventy-two hours old, and presenting a resolution that, after the first of September next, the physicians of Boston should use every endeavor to secure the delivery of milk directly to the consumer on arrival of the milk at the milk depots in the city, instead of allowing it to be taken to the stables of the milkmen, as is now done, where it is exposed to deleterious influences, as well as to the dangers of adulteration.

Dr. E. W. CUSHING thought that no action which could be taken by this Society would have the desired effect, as the whole matter is outside of the control or the influence of the physicians. A committee was, on one occasion, appointed from this Society, but no tangible results had accrued from the labors of that committee. He has little faith in the efforts of any committee from this Society in accomplishing the desired reform in the distribution of the milk-supply of this city.

Dr. B. F. DAVENPORT said that the facts contained in the resolution just presented are true. It is in the limits of his personal knowledge that the milk of our city is often unnecessarily detained in the stables of the milkmen, and is more or less adulterated and diluted before it is at length delivered to the consumer. There is no reason why the requirements of the resolution should not be easily met by the dealers, and he is of the opinion that many of the milkmen would gladly dispense with the extra handling of the milk, and thus prevent a certain amount of change in its character.

On motion of Dr. E. W. CUSHING, the resolution was laid on the table until the next meeting of the Section in order to afford an opportunity for the mover of the resolution to be present and more fully explain the matter.

The Secretary read a letter recently received by him from the Secretary of the Chicago Medical Society, asking for the list of officers of this Society, and for a copy of its By-laws. On motion, it was voted that the letter be transmitted to the Secretary of the Suffolk District Medical Society, for the consideration of the parent society.

The Secretary stated that he had been requested by the Secretary of the Suffolk District Society to call the attention of the members of the Section to the Articles contained in the By-laws of the General Society in relation to the distribution of the lists of nominations for the offices of the Society, and stated that, in accordance with the requirements of the By-laws, the report of the nominating committee would be distributed at this meeting. This was done, with the aid of Dr. F. C. Shattuck. The regular business of the meeting was then taken up.

The first paper of the evening was entitled .

**A CASE OF CHRONIC ARSENICAL POISONING OF SUPPOSED CRIMINAL NATURE, WITH ESPECIAL REFERENCE TO THE MEDICO-LEGAL ASPECT,**

by **DRS. E. W. CUSHING AND MORTON PRINCE.**

Dr. Cushing stated that the circumstances of the patient made the case specially interesting, from the evident motive which could be traced. The patient was a young man, supposed to be in possession of property to the extent of about four million dollars, and

was alone in Boston. He was found at the house of a friend of his, not of his family, on Beacon Street, and this "friend," with the assistance of his wife, took the sole direction of the nursing of the sick man. The medical treatment was in the hands of a so-called physician, really an apothecary and chemist. A large amount of the patient's money had been invested in the manufacture of a patent medicine, in which the "friend" at whose house the patient was staying was also interested.

Dr. Cushing remarked that it might be useful to members of the medical profession to know how difficult it is to bring a case before the courts, even when the evidence is apparently plain and convincing.

PROF. E. S. WOOD stated that he was in a position to add somewhat to the report of the case, in the presentation of some of the results of the quantitative analysis of the vomitus and the excretions from this patient. The quantitative analysis was made, in this case, only for the personal satisfaction of Professor Wood, as the case had not advanced sufficiently far in the way of a prosecution to call for the analysis in behalf of the courts. A complete analysis is not usually made at so early a stage in the investigation of similar cases.

The vomitus, which was placed in his hands on May 1st, contained one-fourth of a grain of arsenic. That of May 8th contained one-third of a grain. The urine of May 1st and 2d contained 5.4 mg. It was thought that this amount of arsenic might have been contained, as an impurity, in the medicines prescribed by the person attending the patient. These were examined, and were found to be free from arsenic. The intermediate urine, until June 1st, was not examined, but that passed on June 1st was examined, and was found to be free from arsenic. The date when the arsenic disappeared from the urine is, therefore, not yet definitely known. The only other case in which analysis was carried out in this way was that of a patient who, by mistake, took, during a considerable period, a poisonous dose of Fowler's solution, and the symptoms of arsenical poisoning were rapidly induced. In this case, analysis at the end of six and one-half weeks showed arsenic, but the urine, when examined at the end of seven and one-half weeks, did not contain arsenic. The occurrence of paralysis is not confined to chronic forms of arsenical poisoning, but may follow acute poisoning from this cause. Seligmüller quotes several such cases.

DR. PRINCE said that he had made, by request, an examination of the nerves and muscles in this case. At that time the patient was almost completely paralyzed from head to foot, only a few movements being left, and these difficult and painful. Even moving the limbs passively caused great pain.

There was more or less complete loss of sense of touch over all four extremities. Sense of pain was increased over some parts, but perception of it was retarded three seconds by the watch. Perception of Faradic current also diminished.

Loss of Faradic excitability of all muscles of legs, forearms and hands. Triceps of right arm responds feebly, but biceps of both well. Faradic excitability of ulna and median nerves of both sides lost, also of nerves of legs.

To the galvanic current there was a most exquisitely developed reaction of degeneration in all the

muscles of the right forearm and hand (including loss of reaction in the nerves).

The same was found true of the extensors of the left forearm. The examination was not continued further on account of pain caused the patient by movement of the limbs. The same condition of affairs probably existed in all the paralyzed muscles.

The interest in this case, as indicated by the title of the paper, centered in the question of the nature of the paralysis, and the other allied symptoms. Were they due to arsenic or to alcohol? In the first place there is no question but that arsenic was given to the man, and that, too, in poisonous doses. But on the other hand, the man was a hard drinker, was in the habit of going on constant sprees, lasting many days at a time, and had just been on a hard spree, when the attempt was made on his life. Now the *paralytic* picture presented was just that of alcoholic paralysis in its most severe form. Alcoholic paralysis has only recently been thoroughly studied and understood; in fact, the best observations have been made during the last two years, and since the above case occurred. The *clinical* picture is just such a one, in almost every detail, as that which we are discussing. There is the extreme and general paralysis, the loss of sensation with hyperaesthesia, the pain and the atrophy with the reactions of degeneration. The resemblance can even be extended to the mental condition. According to Dreschfeldt<sup>2</sup> and Buzzard<sup>3</sup> there is a peculiar and characteristic delirium observed in alcoholic paralysis. A similar mental condition was present in their case.

On the other hand, the clinical picture is also like that observed in many of the cases reported of arsenical poisoning. In the severe cases there seems to have always been present the main and salient symptoms, namely, paralysis with atrophy and reaction of degeneration, loss of sensation, pain, and hyperaesthesia.

Clinically and aetiological, then, it must have been difficult especially, as a medico-legal question, to eliminate either the arsenic or the alcohol as a factor in causing the paralysis and allied symptoms.

*Pathologically* considered, the difficulty is as great.

The pathological condition present in alcoholic paralysis is generally admitted to be a peripheral multiple neuritis. The cord is not diseased. Our knowledge, on the other hand, of the pathological condition present in arsenical paralysis is very imperfect. About the only information we have is derived from the experiments of Popow,<sup>4</sup> of St. Petersburg, on rabbits. According to these experiments, in acute cases, when death ensued in the course of a few hours or at the end of from three to six days, the effect of arsenic is limited to the anterior gray matter of the spinal cord. There is found a polio-myelitis. The white matter and the peripheral nerves are unaffected. In chronic cases, wherein death ensues in the course of three months, the inflammation is more diffuse, affecting the white as well as the gray matter, especially the postero-lateral columns. The spinal nerves were entirely unaffected even in these cases.

Freysing on the other hand claims that he has found all these changes in the spinal cords of healthy rabbits, while in six rabbits which had been poisoned by

arsenic he found no pathological changes whatever in the cord. Dana, in the January number of *Brain*, states that according to Pistorius, the nervous system of rabbits and guinea pigs is very sensitive to arsenic, while that of cats and dogs is less so. Jaeschke, too, found only a few small hemorrhages in the spinal meninges<sup>5</sup> of a dog which developed paralytic symptoms after a fatal dose of arsenic. Very little can consequently be inferred from experiments on animals, and we do not find that any examinations have been made on man after death to determine this point.

As has been said, the symptoms are very similar to those from alcoholic paralysis, which is known to be due to multiple neuritis. On the other hand, a diffuse inflammation of the cord would also explain the symptoms.

It may be, as is most probable, that both cord and nerves are affected in severe cases. At any rate, if the case we are discussing had ended fatally, and had come before a jury, whatever any one's individual opinion may have been, it would have been very difficult to convince the jury, that, notwithstanding the known ingestion of arsenic, a certain portion of the victim's condition was not due to alcohol, and even that this might not have been the exciting cause of his death. There is reason to believe that there were experts ready to take the stand and testify to this opinion.

This complication is likely to arise again in other cases. A decision under such circumstances can only be arrived at by extending our knowledge of the action of arsenic on the spinal cord. It is to be hoped that pathologists and medical examiners in the future will at the first opportunity make investigation into this matter and thus increase our knowledge.

Dr. E. N. WHITTIER said that the position in which he appeared in this Society to speak upon the case presented at this time, is vastly different from that which he feared for many months he would be called to occupy in the courts. He said that he was waited upon, at his office, by a gentleman of most prepossessing appearance and pleasing address, who requested that he should accompany him to the house in which the patient was at that time staying, and give his opinion upon the condition from which the patient was suffering. The account of the case, as given by the messenger on this occasion, was full of conflicting elements, and calculated to mislead one as to the cause of the illness. Four causative possibilities were mentioned, namely, alcohol, syphilis, diarrhoea, and malaria. By these means the judgment of Dr. Whittier was handicapped, and, under these conditions, he saw the patient. He had no difficulty in recognizing the paresis; the enlargement of the liver was also sufficiently evident, but the reported irregular increase and decrease in size of this organ was not compatible with any of the recognized views in the pathology of either of the conditions mentioned as possible causes of the patient's condition. Dr. Whittier then inadvertently committed himself to an opinion that it would be exceedingly difficult to obtain sufficient evidence to secure a conviction in the case.

Dr. P. C. KNAPP asked the condition of the mental faculties, and the location of the paralysis in the patient.

Dr. CUSHING replied that the mental condition of the patient was unimpaired, and his faculties were

<sup>2</sup> Further Observations on Alcoholic Paralysis. *Brain*, January, 1886.

<sup>3</sup> On some Forms of Paralysis from Peripheral Neuritis.

<sup>4</sup> Ueber die Veränderungen im Rückenmarke nach Vergiftung mit Arsen und Blei. *St. Petersburg. M. d. W. Zeitschrift*, 1881, No. 36.

<sup>5</sup> Virchow's *Archiv*. Bd., 162, 1885.

clear. He could remember the main events in his past life, confessed to the abuse of alcohol, remembered the jelly which had caused the relapses in his illness, and could state who had given him that delicacy. For a time he was kept in a house of ill fame on Hudson Street, and from this quiet retreat he was brought, on several occasions, to the residence of his "friend," on Beacon Street, to dine, and was then afterward restored to the caresses of his fair entertainers at the before-mentioned brothel.

Dr. BOWDITCH asked if it were possible that the arsenic could have been absorbed into the system of the patient from the papers on the walls of the rooms he had occupied in the house in which he was stopping.

PROFESSOR WOOD stated that the papers were examined, and were found to contain no arsenic. The amounts obtained from the vomitus and from the urine of the patient were much greater than would be obtained from chronic poisoning by absorption from the wall-papers, the quantity ranging from one-fourth to one-third of a grain on the different occasions when the examinations were made, thus showing that the arsenic must have been administered at varying times, and in relatively large amounts.

Dr. BOWDITCH asked what is the process by which the attention of the grand jury is attracted to a case of criminal nature, and how a physician should proceed in a case in which there is reason to suspect a criminal attempt upon the health or the life of another.

PROFESSOR WOOD stated that criminal proceedings are instituted by calling the attention of the district attorney to the facts in the case, which are then carefully considered by him; and if the evidence, as presented, seems to him sufficient to secure the conviction of the person complained of, the case is submitted to the grand jury. All the experts in the case are called, and after the deliberations of the grand jury, the district attorney is at liberty to prosecute the case, if, in his judgment, it is advisable to do so. The objection to commencing proceedings of a criminal nature upon insufficient evidence is that the case first goes before what is called the petit jury, and if there should not be sufficient evidence to hold the person accused at that time, the case is at once dismissed, and cannot be again called up, as a man cannot be tried twice upon the same charge. It is, therefore, considered wiser to delay proceedings in a doubtful case, in the hope that additional evidence may be procured, which can then be used in the trial, which may be commenced at any time after the commission of the deed. This way seems better than to summarily dispose of every case by the form of a trial by jury, which would effectually prevent the admission of any new evidence after the prisoner had once been acquitted.

Dr. FITZ asked if any attempts were made to suppress the publication of the facts of the case in the newspapers.

Dr. CUSHING replied that the matter was almost entirely suppressed. Most of, if not all, the newspapers had a detailed account of the case in type, and, perhaps, have it still; but the matter was kept from the columns of the press by means of threats of prosecution, so that the public never obtained the facts in the case in any degree of fullness or detail.

The next paper was by Dr. HAROLD WILLIAMS, entitled,

#### A CASE OF HODGKINS' DISEASE.<sup>1</sup>

Dr. C. P. PUTNAM presented the notes of a case recently under his care: The patient was about thirty years old; lawyer. He was unusually muscular, and could paddle a canoe for twenty miles without difficulty. He had had no illnesses of importance hitherto, except eczema, from which he had suffered throughout his whole childhood, and which had been finally cured at Hebra's Hospital, in Vienna. The only remains were an irritability of the scalp and face, and he was very little disturbed by this. He first came on the 11th of January, 1886, with one enlarged gland under the occiput, and one under the left jaw. These he had noticed about the first of January; at any rate, he was sure that, on Christmas day, he was perfectly well. Iodine was applied to these enlarged glands, and in a week they were smaller. But, meanwhile, others had appeared in the same neighborhood, which, in their turn, were treated with tincture of iodine. Ten days later he returned, with the second set of glands also smaller, but with a larger crop in various places in the neck, and also in front of the ear. Then it was found that the axillary and inguinal glands were enlarged and hard. Iodide of potassium had been given, five grains, increasing to ten, three times a day. During the next two weeks he was very much better, and considered that he was getting well. All the glands diminished in size. Meanwhile, however, the whole neck had been growing gradually, but perceptibly larger, so that his collar could not be buttoned. About the middle of February, this apparent improvement ceased. The glands began to enlarge again, and the skin became more red and tender. This time, a slight enlargement of the spleen and liver, and general fullness of the abdomen, was found. Arsenic was substituted for iodide of potassium, and with apparent good effect. He again seemed to improve, and was satisfied with his condition; voice husky. In March, however, he complained of want of appetite, and difficulty of retaining food; had to keep a pail near him, as he would vomit suddenly and violently. Was weak, and lay on the lounge much of the time; ceased to take an interest in books, although he was an active and intelligent reader. Up to this time the pulse had been normal or slightly accelerated, and there was no rise of temperature. The vomiting was supposed, by the patient, to be caused by the arsenic, which was omitted, and then given again, and again omitted.

About the 18th of March he began to lose strength rapidly; lay on the lounge all day too ill to talk, taking little food and vomiting frequently, and yet feeling hungry from time to time. Became less inclined to get up, and from about the 20th kept his bed. His mind became less and less interested in his surroundings and occasionally it would wander. On one occasion he had a hemorrhage from the bowels which was, however, easily stopped. During this period the action of the heart became more rapid, varying from 100 to 120. Respiration was superficial but not labored. He died on the 29th, one month and eighteen days after I first saw him, and almost exactly three months from the time when he noticed the first symptoms. Autopsy by Dr. Gannett.

Dr. W. W. GANNETT described the appearances found at the autopsy, made March 29, 1886. The front and lateral regions of the neck were occupied by

<sup>1</sup> See page 420 of the Journal.

numerous packets of gray, rounded nodules, varying in size from a filbert meat to a walnut; showing on section a homogeneous, and somewhat translucent appearance, like that of a lymph-gland.

Similar nodules were found in the mediastinum and about the roots of the bronchi.

The spleen was much enlarged, and contained numerous secondary nodules of lymph-sarcoma.

The kidneys and liver showed the presence of very numerous secondary nodules.

In the mucosa of the stomach and intestine were numerous, elevated nodules, varying in diameter from one to two centimeters, with depressed centres. Microscopically these showed the structure of a lymphoma.

Dr. Gannett stated that when he made the autopsy he was so struck with the similarity of the course of this case to the acute infectious diseases, the severe symptoms having lasted only three weeks, that he placed at once portions of the new-growth in alcohol for examination for microorganisms. Thin sections, made after hardening, of the gastric and intestinal nodules, stained with methyl-blue and examined with a Zeiss 1-12, showed the presence of well-marked micrococci, in colonies, in the new-growing tissue and no other microorganisms.

Of course, such a result does not prove that the micrococci found were the specific cause of the disease; since to prove this, isolation, pure cultivation and successful inoculation experiments are necessary; but it may serve as a finger point to call attention to the possibility of lympho-sarcoma being an infective disease, and to suggest the advisability of further investigation in regard to this point.

DR. HOWARD M. BUCK asked if there exist any known relation between the eczematous diathesis and the development of pseudo-lukemia?

DR. FITZ asked if Dr. Williams had compared the symptoms noticed in his case with those associated with Hodgkins' disease in the literature of that subject?

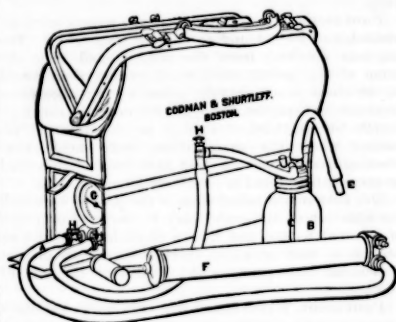
DR. FITZ remarked that in the account presented by Dr. Williams, there is a much greater similarity to the clinical appearances of multiple sarcoma, than to those of Hodgkins' disease.

DR. KNIGHT asked if the patient began to improve before the administration of arsenic was commenced.

DR. WILLIAMS replied that there was improvement, but that the urgent symptoms then consisted of appearances simulating paralysis of the legs, which was considered to be due to the existence of large masses of indurated glands within the abdominal cavity, which were pressing upon the ganglia or nerve-trunks distributed to the lower limbs.

DR. F. C. SHATTUCK said that the remarks of Dr. Fitz put him in mind of a case which he had reported a year or two ago, and which certainly was somewhat similar to that of Dr. Williams. The case was published in the *Boston Medical and Surgical Journal*, under the heading of multiple sarcoma of the skin. Recovery under arsenic hypodermically. The patient is at present quite well. The tumors were to be numbered by hundreds, had in places coalesced into great patches, and the skin over many of them was discolored in the way described by Dr. Williams. The only glands which were distinctly enlarged were those at the angles of the jaw. In reply to a question of Dr. Shattuck, Drs. Putnam and Williams answered that no tenderness over the sternum or the shafts of the long bones had been noted in this case.

DR. E. W. CUSHING recognized the similarity of the cases of Hodgkins' disease to some cases recorded in literature as multiple sarcoma, and stated that micrococci, and also bacilli were found in the tumors and also in the organs in a case of Hodgkins' disease by Italian observers as published in 1886, in the *Gazetta int. delle Scien. Mediche*. From the presence of these organisms in the tissues is it not possible that there may be an error in the conception of the nature and origin of multiple sarcoma. Certainly in no other known form of sarcoma is recovery thought to be possible. May there not be an error also in the diagnosis of many cases of the so-called sarcomata in other portions of the body?



LARYNGOLOGICAL HAND-BAG.

DR. T. A. DEBLOIS exhibited a new form of physician's hand-bag, which he had recently had made. It consists of an ordinary leather bag, of medium size, but is about one-third deeper than the ordinary bags. At one end of the bag is an opening near the bottom, which can be closed by a flap which buckles tightly. This opening displays the end of an air-condenser, with two cocks, and a pressure-gauge. In the bag can be carried a small pump, by which the air can be forced into the condenser. In the space of two minutes Dr. DeBlois was able to obtain a pressure of thirty-five pounds to the inch without great exertion. The apparatus is then ready for use as a spray for the throat, the use of the Evans' inhaler, or for any other purpose to which this treatment is applicable. The bag is sufficiently capacious to accommodate all the articles usually required. The weight is not materially increased by the addition of the condenser, and the whole apparatus is not too heavy to be easily taken in the hand when walking. It is manufactured by Messrs. Codman & Shurtleff.

#### FINANCE.

DR. V. Y. BOWDITCH submitted a report for the Committee on Finance for this Section. He stated that the Committee had secured the necessary amount of money for the reimbursement of the Secretary for the money spent during two years on account of the Section, and added that it was the opinion of some of the members of the Section that any further expense for the purposes of entertainment after the meetings was not expedient. He hoped that the Section would express its sense upon the subject.

DR. H. I. BOWDITCH stated that he knew something of the difficulty of collecting funds for social entertainment. The entertainments of the Medical Society were inaugurated some years ago, when the Suffolk District Medical Society first began to hold its meetings. There was a disposition on the part of the other Societies to sneer at the Suffolk District, and to ridicule the idea of such gatherings for medical improvement. Dr. Bowditch proposed that if the Society could not come together for medical improvement, it could at least come together in a social way, and thus obtain some benefit from the better opportunity afforded for acquaintance and intercourse. The collation was introduced for that purpose, but the Society has long outgrown the need for any such artificial aid in the prosecution of its legitimate work; its meetings are well attended, by those who are not attracted by the prospect of a collation, and this element is no longer essential to the successful working of the Section. Dr. Bowditch moved that any collation at the close of the meetings be abandoned.

DR. CUSHING said that he could not agree with those who would dispense with all forms of entertainment after the meetings. He said that he could hear as good papers in other places as in these meetings, and we have the opportunity to read them in the medical journals, afterward. It is not that alone which makes a meeting useful; it is to fully as great an extent the mutual opportunity for meeting all together, and interchanging ideas and opinions in the social way of conversation after the regular exercises are concluded. Too great weight cannot be laid upon the advantages accruing to the physician from a better acquaintance with and a higher appreciation of his professional brethren. Most if not all of the dissensions which exist between medical men to the disgrace of their profession would be avoided if the men only came more freely together, and thus understood each other better. Dr. Cushing expressed the hope that the members of the Section might still have the opportunity to occasionally pass a few minutes together after the meetings, a privilege which he highly valued, and one from which he had derived both pleasure and profit.

DR. HAROLD WILLIAMS moved that the Section apply to the General Society for the necessary funds to provide a simple entertainment at the close of the meetings. The Secretary stated that the Section has appealed to the General Society for aid, but the appeal was always in vain. The General Society would not contribute toward these expenses of the Section.

#### NASAL POLYPUS.

DR. J. W. FARLOW showed a large nasal polypus, which he had recently removed. The growth filled the nasal space almost completely, and protruded into the pharynx, where it was plainly visible. It was removed entire by means of a sling.

DR. BLODGETT asked the histological structure of the growth, if it was a simple hyperplasia, or if it partook of the nature of a heterologous formation? He wished to ask the reader if these larger polypoid growths are ever the seat of origin of the sarcomata which are occasionally met in the interior of the face, in the antrum, in the orbital region, and elsewhere about this region. Dr. Farlow said that these growths are usually of benign character, and do not occasion

any suspicion of malignancy. They consist of hypertrophied mucous tissues, and are removed more from the disturbance in articulation, and from their tendency to invade other parts than from any fear of malignancy.

#### SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

FEBRUARY 16, 1887, DR. JAMES R. CHADWICK, in the chair.

DR. J. B. SWIFT reported,

#### A CASE OF ALEXANDER'S OPERATION.<sup>1</sup>

DR. FARLOW asked why Alexander's operation was performed before restoring the perineum. He thought that in cases where there was a cystocele or rectocele of any extent, the want of the supporting perineum would allow a still further descent of the vagina, tending to pull with it the uterus and to stretch the round ligaments. For this reason, operation on the perineum might prevent the necessity for an Alexander's operation, whereas, if the latter operation were done first, the operation on the perineum might subsequently be necessary.

DR. SWIFT said that so far as he knew, in cases of prolapse, the operation of narrowing the vagina had not been very successful, the uterus descending again after a while. He thought the operation of shortening the round ligaments was a less severe one, and so far, the cases reported had been more successful in the result, though he had seen no reports of cases later than two years after the operation.

DR. SINCLAIR expressed the opinion that these uterine ligaments might elongate again after Alexander's operation, even when for some time the results have been beneficial. He said that there are many operations, which are highly praised for a time, but are soon given up because they do not do the good claimed for them.

DR. VICKERY asked how much shortening of the ligaments was necessary.

DR. SWIFT replied that the amount of shortening was not accurately measured. He drew on the ligaments until the uterus was in good position and then secured them. For some reason there seemed to be considerable opposition to the operation in Boston. He only knew of four cases having been done here. Dr. Polk, of New York, had probably had more cases than any one else in this country. He had reported fourteen cases, all of which had been successful, and in speaking of those operators who had failed to find the ligaments, he thought the reason of their failure was that they had not found the ring.

DR. JOHN HOMANS, 2d, showed a

PIRROID TUMOR OF THE UTERUS, REMOVED BY DR. JOHN HOMANS, FEBRUARY 12TH, BY HYSTERECTOMY.

The patient, who was kindly referred to Dr. Homans by Dr. W. H. Baker, is fifty-one years old, and dates all her trouble from an accident which happened twenty-seven years ago, while she was pregnant. A difficult labor (non-instrumental) and slow recovery followed. Since then her history has been in brief, that of excessive flowing and constant pain during the

<sup>1</sup> See page 421 of this number of the Journal.

periods. During past four years catamenia once a fortnight lasting three or four days; seventy or eighty napkins used. In 1882, Dr. Baker found a fibroid size of cocoon to which he made one application of electrolysis. Masses of fibrous tissue were passed per vaginam, the patient was relieved and the tumor disappeared, only to reappear within a year larger than before, with former symptoms much aggravated.

The patient—now very anæmic from frequent hæmorrhages, with a feeble pulse, mitral regurgitant murmur, one-eighth per cent. albumen in urine, and considerable œdema—requesting operation, hysterectomy was accordingly done. The tumor was lifted out of the abdominal cavity, Koeberlé's serre-nœud passed round it, and after amputation the stump was treated extra-peritoneally, the wire remaining *in situ*. Weight of tumor removed, seven pounds. Length of uterine cavity removed, five and one-half inches. Patient was very weak for a day or two, with pulse of 140, but soon improved. Wire and clamp came away on February 16th, and patient is now on sure path to recovery.

DR. MARCY, in the discussion of the treatment of the pedicle after hysterectomy, or the removal of uterine myoma, gave a brief account of the method which he had pursued for a number of years.

A pure gum-rubber sheet with a central opening reinforced, to prevent the slipping of the ligature, as well as tearing, is carried down over the growth upon the pedicle and constricted by two or more turns of rubber cord. Then the tumor is cut away without loss of blood, except the emptying of the divided veins, or defilement of the abdominal cavity and contents, thus protected by the rubber. Dr. Marcy was led to the use of rubber from the observation of the dentist's use of the so-called "rubber dam."

In order that the hæmorrhage might be held in control and yet not constrict, to cause sloughing, Dr. Marcy devised the use of the so-called "shoemaker's stitch." The suturing is effected with a needle set in a handle, the eye near the end, which is without a cutting point, and which carries a chromicized tendon threaded from opposite ends back and forth through the same puncture. Thus the stump is divided by as many stitches as may be preferred and the ends secured by only one knot.

It is important not to constrict too tightly, and it is noteworthy how easily all hæmorrhage may be controlled by suturing in this way; since there is no possible escape from an even and uniform compression of all the tissues. In the use of animal ligature an important point gained, is to reduce to the minimum the number of knots, and this is secured by any form of continuous suturing.

It is important to cut the stump above the line of constriction, in flaps which will readily coapt and, if the uterine canal is involved, to curette away the mucous membrane as a farther safety from infection.

The peritoneal surfaces are then brought together carefully, and retained by a fine over-and-over animal suture. By this method the operation can be safely done under irrigation with mercuric-bichl. solution, to say the least, usually ill-advised in laparotomy without the protection of the abdomen and its contents by the rubber sheet.

The advantages gained by this method are:

I. The reducing to the minimum the loss of blood and easy and safe control from hæmorrhage.

II. A thoroughly aseptic operation, with protection of the abdominal cavity and its contents.

III. The intra-peritoneal treatment of the stump and complete closure of the abdominal wound without drainage.

In Dr. Marcy's judgment the importance of the last cannot be overestimated. Hand in hand with the perfection of antiseptic measures came the intra-peritoneal treatment of the pedicle of ovarian tumors, and few would now for a moment advocate returning to the use of the clamp. Much more important is the intra-peritoneal treatment of the stump after hysterectomy. This is constricted so as to control hæmorrhage, but not necrosed, is covered with peritoneum, and leaves no open surface for absorption.

DR. JOHN HOMANS, 2d, said that Dr. John Homans usually uses the needle for the stump of fibroids. Then aseptic gauze is used and the stump is kept covered with liquor ferri persulphatis, and thus there is no suppurative process, but a sort of dry gangrene, and the stump comes away shrivelled and dry in four or five days. If death is to occur, it is generally from exhaustion or shock within thirty-six hours, instead of septicæmia.

DR. CHADWICK said that Tait used two needles, thrust through the stump, on either end of which were affixed a flat plate which rested upon the abdominal walls and prevented the end of the stump from sinking within the abdominal cavity. The end of the stump was charred by the hot iron or perchloride of iron so as to be perfectly dry. The abdominal wound was sewed tightly round the stump so that agglutination took place long before there was any suppurative or exudation from the stump. This agglutination seemed to be effectual in preventing the entrance of any fluid into the peritoneal cavity, and would thus render Dr. Marcy's ingenious rubber dam superfluous.

Dr. Chadwick said that the operation of anterior colporrhaphy, as described by Dr. Cushing, was well known in Boston; he had often seen it done in the Massachusetts General Hospital, where he was House Surgeon in 1871. Dr. Chadwick had never done any other operation himself; he, however, dispensed with the multiplicity of details and instruments recounted by Dr. Cushing. Dr. Chadwick's operation was simply to cut a hole in the vaginal wall behind the urinary meatus, through which blunt-pointed scissors were thrust between the vesical and vaginal walls, opened widely and withdrawn several times, by which manœuvre the adjacent walls were dissected apart without the use of a cutting edge. The minimum of bleeding was thus secured, and the only danger of the operations—wounding of the bladder, absolutely avoided. When the dissection is completed, the vaginal wall is slit longitudinally from the original opening nearly to the vaginal portion, and consecutive slices cut from either side of the incision until an oval opening in the vaginal wall is left. The denuded surface is then thoroughly disinfected, and the edge of the wound approximated by interrupted silk sutures; these are introduced very near together and very superficially, so when suppurative sets in on the sixth to eighth day, very little traction upon the free ends of the sutures, protruding from the vulva, will cause the sutures to cut through and come away. Dr. Chadwick has been in the habit of operating upon the lacerated cervix, the anterior vaginal wall, and the posterior

vaginal and perineum at one sitting, with perfectly satisfactory results.

Dr. Chadwick said that when he was studying in Breslau in 1873, Professor W. A. Freund had conceived the idea of Alexander's operation, and they had together made several experiments upon the cadaver, to determine its practicability. They had never failed to find the ends of the cords, but after dissecting them up and drawing upon them; they had never been able to draw them down more than two inches, which had not been found sufficient to raise the retroverted fundus; moreover, the peritoneum investing the cord was drawn down into the canal of Nuck in such a way as to suggest liability to inflammation of that membrane. These considerations had caused them to abandon the operation. Recent experiences have made evident that the agglutination of the peritoneum to the cords is a post-mortem change, and not an obstacle to the operation upon the living. Dr. Chadwick went abroad last summer with the intention of seeing some of Alexander's operations, but found the leading gynecologists of England so opposed to the operation that he renounced his intention. The objections raised were: (1) the occasional impossibility of finding the end of the cords; (2) the serious results and even deaths that had followed the operation, and more important than all, (3) the fact, as alleged, that the relief to the displacement was but temporary. Dr. Swift's result was certainly very good, and would encourage him to try the operation.

DR. HENRY O. MARCY read a paper entitled  
THE PERINEUM, ITS ANATOMY, ITS LESIONS AND  
THEIR RESTORATION.

It was illustrated by a large collection of photographic pictures projected upon the screen, a considerable number of photographs of patients, showing different degrees of injury, and in varying stages of operation for restoration.

As shown by a number of actual dissections, the anatomy of the perineum is quite different from the teachings of the ordinary text-book, and this is the more remarkable since, as shown by photographs from the celebrated drawings of Wm. Hunter, this master clearly taught some of the important relations of the muscles going to make up the floor of the pelvis.

In rupture, not involving the sphincter ani, the divided ends of the transversalis retract, and this pulls apart, or allows the separation of the lateral closure of the vulva and permits the eversion of the antero-posterior folding of the vaginal muscle. Thus weakened, the usually closed, elastic, vaginal column of support to the uterus, fails of its normal function and the entire train of evils, dependent upon misplacements and disordered pelvic circulation and nutrition, may follow.

A long continuance of these factors may so change the floor of the pelvis as to render its complete restoration impossible, and it is important to recognize and restore the injured parts as early as possible. This should be done at once after the injury, but for manifest reasons a large number of cases will escape the obstetrician.

Dr. Marcy's method of restoration is too well known to require a detailed description. The patient, in lithotomy position, he dissects carefully, with two fingers in the rectum, the posterior vaginal wall on a plane with the sphincter ani and rectum, by introduc-

ing midway a sharp-pointed double-edged knife. The dissection is carried laterally as far forward as the cicatricial marks show the injury extended, and above to a point determined by the conditions of rectal dilatation even, if desired, to the extent of a posterior colporrhaphy. The vaginal flap is then lifted anteriorly, the divided ends of the retracted transversalis are felt for and coapted by a deep tendon suture, which is repeated as a deep-buried continuous stitch, as may be thought needful.

Dr. Marcy considers the use of the interrupted stitch for the closure of the perineum, even of wire, although almost universal, as very defective, and attributes to it a large share of the failures which so commonly follow. No matter how inserted, or how much tissue enclosed, it is a loop and must act equally upon the part enclosed. In order to prevent traction from above downward, and secure a lateral coaptation, with rest and retention, Dr. Marcy has devised a double pin, the halves of which are nearly alike. It is made of German-silver wire, gauge No. 20 or 22, because this material does not irritate the tissues and possesses stiffness and elasticity, qualities which are essential. The end is bent in a small loop and turned one-fourth of an inch therefrom, at a right angle, and the shaft is two or two-and-a-half inches in length, and sharpened like the point of a subcutaneous syringe. The one-half is introduced from within the vagina outwards, chiefly laterally, the direction being determined by the finger in the rectum, to which the pin should be parallel.

The other half of the pin, similarly constructed, is introduced upon the opposite side, from without inwards, the point of which is caught in the loop of the first part and adjusted without. Thus a kind of "safety-pin" is constructed and when fitted to retain properly the enclosed parts, the loops are clamped down by compression forceps and the ends cut square. Perforated shot are sometimes used to protect and strengthen. If properly adjusted the elasticity of the wire allows for the lateral oedema and does not impede the circulation in the enclosed parts, while complete approximation is obtained and no force is exercised in the direction of the long axis of the triangle.

The wound, thus closed, may be rendered and retained aseptic. It is protected from vaginal secretions, as the vaginal surface is not injured and the open wound is reduced to the short side of the triangle, which is carefully closed by an over-and-over animal suture. Usually two pins are sufficient. The bowels are kept open. The eighth or tenth day, each pin is gently pushed upwards, and the vaginal end exposed. Each side is then cut off near its juncture and withdrawn. The animal sutures are not disturbed.

In cases of complete laceration, involving the sphincter ani, the method of dissection is much the same. It is carried laterally, on each side, as far as deemed necessary. The rectal surfaces are first refreshed and coapted by animal suture, the vaginal next, and the triangle is then not unlike the conditions where the lesion is only partial. Greater care must be taken to avoid rectal accumulation. Dr. Marcy has now operated in this manner over fifty times and with such excellent results, that, in many instances, it would be difficult to determine if a lesion ever existed.<sup>1</sup>

<sup>1</sup> The pins are kept in stock by Codman & Shurtleff, of Boston, and Tiemann & Co., of New York.

## NEW YORK NEUROLOGICAL SOCIETY.

STATED meeting, April 5, 1887. The President, C. L. DANA, M.D., in the chair.

## REPORT OF A CASE OF SARCOMA OF THE BRAIN: OCCIPITAL LOBE, CAUSING HEMIANOPSIA. REMOVED BY OPERATION,

by DR. W. R. BIRDSALL and DR. R. F. WEIR.

DR. BIRDSALL gave the history of the case, of which the following is an abstract. The patient, a Hebrew, aged forty-two, first came under his observation October 16, 1886. He had always been healthy until the summer of 1885. He denied injury to the head, or venereal disease. In August, 1885, he observed, for the first time, unsteadiness of gait, and had a severe attack of vomiting. Soon after diplopia for distance and increased awkwardness in walking was observed; also a disagreeable sensation, akin to numbness, in the right leg, hand and shoulder, but not in the face. This and the diplopia were transitory. Headache, usually frontal, was present occasionally, but never severe. October 7, 1885, he consulted Dr. E. C. Seguin, who found the eye muscles normal; no diplopia with red glass. Left pupil a trifle wider than right, both active, fundus normal. Left lateral hemianopsia, vertical line passing little to left of fixation point. No paresis of tongue, face, or limbs; no anesthesia; patella reflex normal; walk somewhat swaggering, with decided tendency to the right. October 20th, diplopia had recurred; left externus weak; hemianopsia the same; no hemiopic pupillary reaction. Grasp of right 42°, left 30°. November 7th, beginning neuro-retinitis. Drowsiness during the day. Difficulty in rising from chair.

*Diagnosis.* Tumor of mesal aspect of right occipital lobe, involving primarily the cuneus, extending downward toward the tentorium cerebelli, and perhaps also upward toward the para-central lobule leg centre.

*Treatment.* Large increasing doses of potassium iodide.

From January to July, 1886, patient under care of late Dr. McBride. During the early months of this period his diplopia disappeared and never returned; his gait improved somewhat, but he had two attacks on street, feeling he could proceed no further, and staggered toward the left. From September on his difficulty in rising, standing, and walking, together with drowsiness rapidly increased. In October, 1886, Dr. Birdsall found double optic neuritis, most marked in left eye; left pupil somewhat larger than right, no diplopia, no ocular paresis evident. His movements were clumsy rather than ataxic, at times being accurate, at others wide of the mark, especially in left extremities; gait slow and uncertain. There was frequent expectoration of a viscid saliva. Left hemianopsia, Dr. Birdsall thought, could be accounted for only by a destructive lesion in the neighborhood of the gyrus cuneus of the right occipital lobe. The locomotory disturbances appeared to him to be due to pressure effects of a tumor on structures below the tentorium; thus implying a growth of considerable size. His disturbance of equilibrium continued to increase in a very irregular manner. His intellect was not impaired. His family observed no change in his character or disposition. He was extremely uncomfortable mentally. An operation was proposed in February, 1887.

The operation was performed by Dr. Weir. Regarding the tumor Dr. Birdsall said it was of so large size, so much of the occipital lobe was compressed by it that the case was of little value for determining the limitation of the visual area in the occipital lobe. The growth was a sarcoma, originating in the meningeal structures, producing destruction of the cerebral tissues by pressure alone. Absence of severe headache should be noted, as it is usually a prominent symptom of tumors involving the meninges. One of the most important lessons that the study of cerebral tumors taught was that growths remaining limited to the meninges may attain a large size before disturbing the function of neighboring parts of the brain. In these cases regions away from the tumor may give signs of importance before those in contact with the tumor. The extreme fatality of intracranial neoplasms was high warrant for taking an extreme surgical risk. The coöperation of neurological science and surgical art in the present state of each could hardly fail to build up an experience which would in some cases save life that would otherwise be lost.

Dr. WEIR described the operation which was performed March 9, 1887. Special antiseptic precautions prior to and during the operation were taken. The periosteum was raised, two openings were made with the trephine, the first one inch above the occipital protuberance, and the same distance from the median line; the other immediately above. The openings were joined, and enlarged by the Rongeur forceps to two and three-fourths, by two and one-fourth inches. The dura mater was divided two-thirds the extent of the bone opening. Its retained attachment being toward the median line. The tumor was at once recognized and enucleated. It was necessary on account of its large size to incise it and press out some of its substance before it could be completely detached and removed through the opening. A great deal of venous bleeding took place, and sponges were stuffed in for temporary pressure, the cavity was inspected by the electric light, and showed that great amount of pressure had been exerted upon the brain; the falx was crowded to the left of the median line; the tentorium was depressed to a horizontal line. The tumor weighed five and a fourth ounces. It measured three and a fourth by two and three-fourths by two and one-half inches. One of the bleeding points was found to be in the region of the straight sinus, not free enough to be from that vein, but probably from the pedicle of the tumor; the other, apparently arterial, probably from a terminal branch of the posterior cerebral artery. The flow from each was readily checked by direct pressure, and it was determined to control them by packing the cavity with iodoform gauze. The dura mater was partly united over the gauze by loose sutures. The operation was well borne until the final enucleation of the tumor, when the pulse fell, apparently from loss of blood. Some hours afterward slight diverging strabismus of the left eye was noticed; blood stain appeared through the dressings; the pulse was weak; stimulants were given; the patient was restless. At night transfusion of a saline solution was made with temporary improvement, and the dressings were removed to control hemorrhage, which was seen to be taking place in a small stream, but the pulse again gave out, and nothing further could be done than re-apply pressure in the supposed direction of hemorrhage. Death occurred at 2 A. M.

An autopsy was not allowed, but in the lower part of the brain cavity was seen a large collection of coagulated blood.

DR. WEIR said that in another case, where the hemorrhage was from vessels too deeply situated to apply a ligature, he would control it by leaving on clamp forceps, to be removed after a period of twenty-four or forty-eight hours. The opening, although large, was not sufficiently large to enable him to remove the tumor entire. It was intended to adopt Macewen's method, and employ bone grafts. Dr. Weir had recently replaced the pieces of bone removed by the trephine in a case of epilepsy, the opening being nearly two and a half by three inches, and now, about seven weeks after the operation, the wounds had healed save one, and the bones were felt to be solid, and were painless. Brief references to the cases of tumors of the brain for which operations had been performed were made.

#### REPORT OF A CASE OF CYST OF THE BRAIN, WITH OPERATION.

DR. GRAEME W. HAMMOND related the case. The patient, a married woman, complained of severe pain an inch above the right ear, and had left hemiplegia. At the time her symptoms began, she was about twenty-nine years of age; she had had four children, and during the progress of her disease she had a fifth child. All were strong and well. Her sickness lasted about two years and a half. It commenced by sudden loss of consciousness and convulsions limited to the left side. The left side of the face became, and remained, paralyzed. About a year later she noticed gradual loss of power in the left arm; things dropped from the hand. At the end of another year the left arm was completely paralyzed. She then noticed increasing weakness in the left leg. When Dr. Hammond first saw her she was able to stand and walk slowly. While the paralysis was extending she had four or five epileptic seizures, confined to the left side. Headache developed about the time the legs became affected, grew more constant, and was described as agonizing.

She denied syphilis. Physical examination showed loss of motion on the left side of the face, tongue, and soft velum; of the left arm, and partial loss of motion in the left leg. There was no disturbance of sensibility of any kind. The reflexes were exaggerated on both sides. Sight, hearing, smell, and taste were normal. Choked disc on both sides was observed at a subsequent examination.

Under treatment, the headache was controlled to a considerable extent. Dr. Hammond's diagnosis was probable cerebral tumor involving the cortical or sub-cortical substance of the motor centres. An operation was refused. The patient grew worse until the 20th of March, 1887, when her husband asked that the operation be performed. Dr. Spitzka then saw the patient with him, and made two examinations. He rather coincided in the diagnosis. The operation was performed in the hospital last Wednesday. Dr. H. Josiah Roberts assisted at the operation, removing the portion of skull by his electro-osteotome. Four buttons were removed by the electro-trephine; these were connected by straight lines made with the circular saw. The diameter of the opening was over two inches. A crucial incision was made through the dura. A hypodermic needle was introduced in different directions, but no fluid was withdrawn. The dura was

closed, a drainage-tube was introduced, the skin-flaps were sewed up, the patient was put to bed. She lived only twenty-one hours, remaining unconscious after the operation. Prior to the operation she had become completely paralyzed in the left lower limb; she had delusions and hallucinations, she talked incoherently. Bed-sores developed.

The autopsy showed little hernial protrusion at the wound; the cortical substance here was thin. Incision through the motor region revealed three cysts in a line, deep in the white substance. The fluid in the cysts had been only partially examined; it was serum, and contained broken-down brain substance. The cysts were close together, and in a position to affect the face, arm, and leg centres. He could not explain why the syringe failed to bring forth fluid, unless it was that the cysts were too deeply situated, or the needle passed between them. He added to the clinical history that the head was drawn to the right side the last three days of life.

DR. E. C. SEGUIN was partly responsible for the operation in the first case, but it seemed the patient would not live more than two or three months without it. He expected to find a large tumor, but was somewhat surprised to see it encapsulated and non-parenchymatous. During the early history of the case the symptoms pointed to destruction of brain-tissue. He asked Dr. Hammond whether the sensory or motor symptoms determined the seat of his operation.

DR. HAMMOND replied that the headache corresponded to the centres for the motor systems, and the seat of the operation.

DR. SEGUIN added that the seat of the pain would be a very uncertain indication for the seat of the operation. In some cases of cerebellar tumor, for instance, the pain had been mostly frontal.

DR. E. C. SPITZKA, referring to the case reported by Dr. Birdsall and Dr. Weir, said that an artery, large enough to cause fatal hemorrhage, entered the gray and white substance of the right occipital lobe. It had been overlooked in many text-books.

DR. ROBERTS explained how the circular saw could be used without injury to the brain, and the operation of the electro-osteotome.

DR. STARR suggested the desirability of an analysis of reported cases of cerebral tumors, for the purpose of determining their rapidity of growth and size.

DR. R. L. PARSONS read a paper entitled

#### NOMENCLATURE IN PSYCHIATRY. MONOMANIA OR OLIGOMANIA, WHICH? PARANOIA, WHAT?

An examination of the reports of fifty-one asylums for the insane, taken at random, showed that of the whole number of patients enumerated less than two per cent. were classified as cases of monomania, while in twenty-four of these reports the term did not appear. But, however much systematic writers on the subject of insanity deprecated the use of the term monomania, they rarely succeeded. There were manifestations of insanity which were neither melancholia nor dementia, but which differed so much from mania that another designation was required for them, and the objectionable term monomania was the only one generally employed. Dr. Parsons thought a suitable substitute could be found. Paranoia had been used to a considerable extent, but if the meaning of the term monomania was too narrow for the purpose required, that of paranoia was too broad. In conclusion, then,

with the assumption that monomania, as defined and explained by certain writers on psychiatry, designates phases of insanity of sufficient importance and well enough differentiated to require a place in the general classification of mental diseases; and with the further assumption that the reasons adduced in this paper are sufficient to justify the substitution of the term oligomania for monomania, it only remains to apply the proper meaning of the latter term to the former, to wit: a form of insanity which, although potentially affecting all the mental faculties and operations, apparently involves only a part, as the intellect, the emotions, or the will, or certain manifestations only of a faculty of the mind; which originates in the intellectual faculties rather than in the feelings; and the manifestations of which are well-defined, persistent, dominant, and systematic in character.

### Recent Literature.

*A Text-Book of Pathological Anatomy and Pathogenesis.* By ERNST ZIEGLER. Translated and edited for English students by DONALD MACALISTER, A. M., M.D. Part II. Special Pathological Anatomy. Sections IX-XII. New York: MacMillan & Co. 1886.

This completes a work, the previous parts of which have already been noticed in the JOURNAL. These sections contain a description of the changes found in disease in the urinary and respiratory organs, and in the central and peripheral nervous systems. These subjects are carefully treated and well illustrated. They all bear the impress of original work, especially the section devoted to the kidney. And this, perhaps, is the only criticism that can be made against the work: that, for a text-book, it has too much individuality, and, therefore, does not give quite enough value to the views which have been more generally received. The abundant references, both to German and English literature, aid in correcting this fault, however, but are of greater value to the advanced student than the beginner. We can most heartily recommend the book to the profession, and prophecy for it as great a success here as abroad.

#### *Tenth Annual Report of the State Board of Health of New Jersey.*

This report contains the report of the Secretary, Dr. E. M. Hunt, followed by several papers upon various important topics relative to Public Health.

Of these, two are especially worthy of comment. "The Hygiene of Occupations" by Drs. Hunt, Stickler, Newton and Davis, forms a valuable contribution to the literature of this important subject. The occupations considered are glass and iron workers, hatters, workers in silk, jute, flax and rubber. The statistics relative to hatters are carefully compiled, and data are presented relative to the prevalence of certain diseases, such as catarrh, lung-disease, rheumatism, etc., among them.

The paper upon "Illuminating-Gas" by Dr. J. H. Raymond, of Brooklyn, New York, deals with a subject of considerable importance, but in such a manner as to elicit an inquiry as to its "raison d'être" in a sanitary report. The main portion of the paper relates to the history of illuminating-gas, processes of manufacture, etc., while the dangers from gas-inhalation are hastily disposed of in a few closing para-

graphs, and the comparative dangers of the two principal gases now used in some of the large cities of the United States are entirely ignored.

It is quite remarkable that the writer should not have found out, after the very elaborate report which he had made to the City Government of Brooklyn, that the fatality from gas-poisoning in his own city and in New York had increased ten-fold since the introduction of a more poisonous gas, the same being also true in regard to Baltimore, Rochester, Toronto, and other American cities.

*Nervous Diseases and Their Diagnosis.* By H. C. Wood, M.D., LL.D. 8vo. pp. 501. Philadelphia: J. B. Lippincott Company. 1887.

The author of this work sees fit to apologize "for again trespassing upon the patience of the profession." Such an apology, which would hardly be warranted when we recall the value of the author's previous work in this department, becomes still more unnecessary from the fact that, in spite of the number of new books on nervous diseases, there is no good work in English on the special subject of diagnosis, except the manuals of Gowers, which cover but a part of the ground. The volume before us, therefore, is a distinct help to the student, and is a necessary supplement to the systematic works on diseases of the nervous system.

The first four chapters are devoted to motor symptoms — paralysis, motor excitations, reflexes, and disturbances of equilibration, — then, after a chapter on trophic lesions, sensory paralysis, exaltations of sensibility, and disturbances of special sense each form a chapter. Disorders of memory and consciousness, disorders of consciousness, and disturbances of intellect are discussed in the last three chapters. The arrangement of subjects under the several headings is systematic and clear. We feel grateful to the author for considering all the diseases of the brain in the various chapters, the insanities as well as the forms of brain disease commonly treated in our text-books, — and for devoting a special chapter to the subject. Such a course must be a great help to the student, who too often overlooks the facts that mental and nervous diseases cannot be separated by any distinct line. Pathology as a rule is subordinated to diagnosis in the work, but occasionally, as in treating of chorea, the author dwells at length upon the pathology, giving us the substance of his own former researches.

A few statements merit a word of criticism. The author's experience in finding the patellar reflex absent in hysteria is certainly unusual, and we would regard the absence of the reflex in health as an event much more rare than the figures show that the author quotes. In progressive muscular atrophy, too, reaction of degeneration is not uncommon, even in the early stages. The section on Thomsen's disease is far behind our present knowledge, and the section on aphasia seems to us a little brief and obscure. Singularly enough the author omits to speak of neuritis as a cause of paresthesia. An explanation of the lettering of some of the figures would be desirable. Moreover, a chapter devoted to cerebral localization would add to the value of the work. On the whole, as we have said, the book filled as it is with personal experience, is a welcome addition to our knowledge, and a work which the student will find a necessary assistance in the study of the diagnosis of nervous diseases.

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THE OPERATIVE TREATMENT OF TUMOR OF  
THE BRAIN.

In another column will be found the report, read before the New York Neurological Society, of two cases of cerebral tumor, in which an operation was undertaken for the removal of the new growth. We have already spoken in these columns of the now well-known operation performed by Mr. Godlee,<sup>1</sup> and the successful operation of Mr. Victor Horsley,<sup>2</sup> but we feel justified in a further consideration of the subject, because the doubtful prognosis, even of syphilitic new growths, and the almost hopeless fate of the victims of every other form of tumor of the brain, render any new attempt at relief, however desperate, of the utmost interest.

Beside the four cases referred to above, the cranial cavity has been opened six times for the removal of a suspected tumor. The first operation was performed by Dr. MacEwen,<sup>3</sup> on a suspected new growth of syphilitic nature over the Rolandic region. There was no tumor to be excised, but a false membrane was removed, the cortex incised, and some red, grumous fluid evacuated, with relief of symptoms and recovery. The first operation in this country was done by Dr. Morse, on a patient of Dr. Hirschfelder's.<sup>4</sup> The tumor, a glioma, was in the motor region of the cortex, but, owing to extensive infiltration of the growth, it could not be entirely removed, and the patient died of encephalitis on the eleventh day. Mr. Horsley has recently referred<sup>5</sup> to two other operations that he has performed for tumors in the motor region, but, although both were successful, the details have not yet appeared. Dr. Weir<sup>6</sup> has also operated before this on a patient of Dr. Amidon's, to remove a supposed sarcoma in the motor region, excising a portion of the cortex, which proved to be healthy. The patient recovered from the operation, but died in two months and a half of the

tumor, which was found, at the autopsy, on the under surface of the cerebellum, pressing on the medulla. Mr. Bennett May<sup>7</sup> reports a recent attempt to remove a tubercular tumor of the cerebellum. Contrary to his expectation, the operation was performed with comparative ease, and there was but little hemorrhage, but the child, who had been much collapsed for some days before the operation, died of shock in a few hours.

Of these ten cases, therefore, four have made a good recovery, and the fifth recovered from the operation, although the topical diagnosis was at fault. Two cases—Dr. Hammond's and Mr. May's—were not operated upon until the patient was already much exhausted, and these are the only cases in which the operation seems directly accountable for the fatal result. The other three cases died from what must be regarded as accidental and avoidable causes—inflammation or hemorrhage. On the whole, then, it would seem that, in selected cases, an operation for removal of the tumor is not only justifiable, but affords a fair chance for recovery, if done before the patient has become too much exhausted.

Unfortunately for the victims of cerebral tumor there are only certain portions of the brain that are accessible to the surgeon, and only in certain regions of these portions is our topical diagnosis reasonably certain. Tumors of the pons and basal ganglia can never be attacked by the knife, and tumors in the white matter of the centrum ovale are the most difficult to locate of tumors in any region of the brain, nor is it yet certain that, if we can locate such a growth with certainty, a deep-seated tumor can be removed. Furthermore multiple tumors can seldom be successfully located and removed. At present we can admit that only single tumors of the cortex and perhaps of the cerebellum are amenable to surgical treatment, and these are unfortunately few in number. Out of 485 cases collected by Bernhardt,<sup>8</sup> only 57 were in the cortex, and 90 in the cerebellum. In Mr. W. Hale White's<sup>9</sup> 100 autopsies at Guy's, 22 were cortical, and 29 cerebellar. Of the 100 select cases of Drs. Mills and Lloyd<sup>10</sup> nine were cerebellar, and 33 at most, were cortical. Of these, moreover, many cases of cerebellar new growths may escape the most skilful diagnostician, and there are at present only a few areas in the cortex where we can be at all sure of our localization. It is now generally admitted that in the central convolutions and their neighborhood lie the centres which preside over the movements of the body, although many observers doubt whether these centres can be mapped out as exactly as Ferrier and Horsley claim; and it is in this region in which most of the tumors operated on have been situated. Seguin has done much to establish the belief that in the cuneus is the centre for vision for one-half of each retina, and Dr. Birdsall's case is of especial interest as the first attempt to operate in this region. To these

<sup>1</sup> Vol. CXII, 41, 67. See also Lancet, December 20, 1884.

<sup>2</sup> Vol. CXV, 520. See also British Medical Journal, October 9, 1886.

<sup>3</sup> Glasgow Medical Journal, February, 1884.

<sup>4</sup> Pacific Medical and Surgical Journal, April, 1886.

<sup>5</sup> American Journal of the Medical Sciences, April, 1887.

<sup>6</sup> Medical News, March 5, 1887.

<sup>7</sup> Lancet, April 16, 1887.

<sup>8</sup> M. Bernhardt. Beiträge zur Symptomatologie und Diagnostik der Hirngeschwülste. Berlin, 1881.

<sup>9</sup> Guy's Hospital Reports, 1885-86.

<sup>10</sup> Pepper's System of Medicine, Vol. V, 1900.

regions we may, perhaps, add the left upper temporal convolution, the acoustic speech centre, as a region where a lesion can be definitely located. Mills and Lloyd<sup>11</sup> suggest that hereafter the tumors in the antero-frontal and postero-parietal regions may also be located with some degree of certainty. Beyond these regions our knowledge of the localization of disease in the cerebral cortex is still uncertain, and less than two-thirds of the cases of cortical tumor cited were located in the regions where an exact topical diagnosis was possible. In spite of Dr. Birdsall's conclusions, our knowledge of localization is still capable of further advance, and it may be destined to become a still better guide to the surgeon than it is at present.

Certain other factors of a purely surgical nature render the prospect for the relief of victims of cerebral tumor still less hopeful. In the first place certain forms of tumor, such as cancer and sarcoma, are as likely to recur in the brain after removal as they are in other organs. In the second place Dr. Hirschfelder's case seems to indicate that, if the tumor be infiltrated, as often happens with gliomata and sarcomata, the chances for success are materially lessened.

Mr. Horsley has called attention to certain confirmatory signs of tumor which may appear at the time of operation, and his observations have been corroborated by most of the other operators. The dura is usually forced outwards through the opening in the skull, by the great intra-cranial pressure, and the pia over the tumor is often discolored. In some cases the tumor was distinctly felt as a hard mass beneath the finger.

The unsuccessful cases have at least served to emphasize certain precautions to be observed in operating. The first point seems to be, as in all operations, that surgical interference should not be put off too long. The only cases where death seemed due to the operation were cases where the patient was already much exhausted. The need of the most rigid antiseptic precautions is also evident. In case of hæmorrhage, the vessels must be tied or twisted, or, if too deep in the cranial cavity, clamp forceps might be left in for twenty-four hours or more, as Dr. Weir suggests. Etherization should be preceded by morphine. A large opening into the skull is necessary, and, after the operation, the buttons removed by the trephine, if kept warm, moist, and aseptic, will aid in fresh bone-formation. Horsley also recommends a U-shaped flap in the dura, instead of the crucial incision.

Under these precautions it would seem that, in a certain class of cases, unfortunately too limited, the operative treatment of tumor of the brain, has a fair chance for success.

— Shall we say *prodromes* or *prodromata*? A correspondent asks what authority certain medical writers have for using the word *prodromata* as the plural of a word which others give as *prodromes*? We confess that we give it up. The Greek word is Προδρομῆς; hence the plural *prodromes* is philologically correct.

<sup>11</sup> Op. cit., p. 1067.

#### HEALTH OFFICERS AND PATENT DISINFECTING PROCESSES.

AN important suit in regard to rag-disinfection by patent processes has just been decided, although not finally, after a ten days' trial, in the New York Supreme Court, Part II, before Judge Ingraham and a jury. It was brought by the firm of Lockwood & McClintock against E. B. Bartlett & Co., warehouse men and disinfectors of rags, and Dr. Wm. M. Smith, Health Officer of the Port of New York, to recover \$15,000 damages; the complaint setting forth that in May, 1885, Lockwood & McClintock imported and received from Japan 2,920 bales of rags by the ship *Vigilant*, and from Leghorn, Italy, 150 bales by the bark *Battaglia*, and that they were justly entitled to the possession and control of the goods, and would have had this but for the wrongful acts and conduct of the defendants. One of the clauses of the complaint states that Dr. Smith "with intent to wrong and injure plaintiffs, wrongfully and unlawfully conspired and combined with said Bartlett & Co. to have said rags of plaintiffs condemned as unclean and infectious property, and to require said rags to be disinfected under the process used by said Bartlett & Co., so that said Bartlett & Co., would be able and entitled to charge plaintiffs therefor, and to hold and keep said rags until such charges were paid."

Another clause reads: "That in furtherance of said wrongful conspiracy and combination, said Smith, under color of his said office, but wrongfully and unlawfully, caused said rags of plaintiffs on and between June 5, 1885, and June 17, 1885, to be taken from said vessels and transferred to the place of business of said Bartlett & Co., for the pretended purpose of having the same disinfected, although said Smith and the said Bartlett & Co. knew that such rags were clean and free from any infectious matter, and were not at all dangerous to health, and did not require to be disinfected. The rags, the complaint goes on to state, were held from the consignees until October 1, 1885, and during that time "were partially subjected to a pretended process of disinfection which was worthless and ineffectual for any real purpose of disinfection, and which greatly damaged and injured the rags, but which process was fraudulently and collusively approved of by said Smith, with intent to give said Bartlett & Co., the control and monopoly of the disinfection, or pretended disinfection, of rags, so that they might be able to charge and extort from plaintiffs and others, large sums of money for such so-called disinfection."

It will thus be seen that the suit was of a double nature. It was for damages as against Bartlett for injury sustained by the forcible retention of the plaintiff's property, in pursuance of the orders of Health Officer Smith, and against both Dr. Smith and Bartlett, for conspiracy in giving and carrying out these orders. Against Bartlett the jury rendered a verdict of \$8,000 damages; but in the case of Dr. Smith they were unable to agree, although it is stated that a large

majority of them were of the opinion that the charge of conspiracy had been sustained. The case will now be taken to the General Term, and possibly to the Court of Appeals.

Whether Health Officer Smith be ultimately condemned to pay damages under this indictment or not, public confidence in his integrity and usefulness must be very seriously impaired or altogether lost. It is probable that Health Officers, Health Commissioners, and Boards of Health, will in the immediate future be more careful, than they have been in the recent past, about compromising themselves in any way, even in appearance, by any association with or employment of patent or proprietary disinfecting or other processes. It is also probable that we shall hear less of the extraordinary infectiousness of foreign rags and of the crying necessity for their invariable disinfection. The insensate clamor on this subject which filled the daily press, and even crept into some of the medical journals, two years and more ago was the most infectious element of the rag question which has thus far been brought to our notice.

#### HATS AS A CAUSE OF BALDNESS.

In the October number of the *Popular Science Monthly*, Mr. Virgil G. Eaton expatiates on the prevalence of baldness among the male members of the present generation. From careful observations made in churches and theatres of all the large cities, he finds that fully thirty per cent. of the men over thirty years of age show unmistakable signs of baldness, while nearly twenty per cent. have spots on their heads, that are not only bald but actually polished with the gloss that is supposed to belong to extreme old age alone; bald-headed men, he affirms, are most plentiful in New York and Boston. His observations have been taken among the most cultivated as well as the least refined classes; it is among the former that baldness is the most prevalent. "Of two nights," he says, "when Patti sang at the Boston Theatre, there were forty-six per cent. of bald heads on one occasion, and forty-two on another. When De Lussan appeared in 'Fra Diavolo,' I discovered thirty-eight per cent. of baldness, and at Matthew Arnold's lectures there were forty-six per cent. In fact, out of hundreds of observations, extending over several years, I have found that the higher the price of admission, and presumably the more refining the nature of the performance, the larger the per cent. of bald heads." He found in one store in New York, twelve shipping clerks, all under forty years of age, seven of whom were bald, and declares that there are more bald-headed men in Boston than there are who have black or red hair. In view of these facts he asks: "Will the coming man be bald? If not, what is the present generation doing, or what can it do to hinder such a fate?"

Among the causes of the prevailing baldness of the

present age Mr. Eaton assigns the most importance to the wearing of tightly-fitting head coverings, living in doors, and the custom of cutting the hair close. "Among savage races who live out doors and go bare-headed, baldness is unknown. To these, hair is a protection. It grows in rank profusion without care. Something is needed to protect the scalp from the sun and wind and rain, and hair grows luxuriantly; when hats and caps were invented, they took the place of the natural shield, and the hair having no longer any function to perform, fell away. The days of its usefulness in the economy of life are past, and like the tails of the monkeys and the muscles of the ears, it has become rudimentary from disease. If it is to be restored to its former glory, men must stop making 'close crops,' and must go bareheaded." He thinks that the reason why there are fewer bald-headed women than men is that women do not "shingle" their hair after the manner of the sterner sex. The recent fashion of "banging" and "frizzing" their hair, adopted by ladies of fashion, is a death-blow to their sex having good hair much longer. If it continues there will be as many bald-headed women as men.<sup>1</sup> Mr. Eaton concludes that: "the man or woman who wears a closely-fitting cap, and works in over-heated shops and stores, under the rays of gas and electric lights, cannot expect to have good hair. If they want to be 'worth scalping,' they must go out into the open air, and expose their heads so that they will feel the need of scalp locks." "Nature never makes anything for which she has no need, and when she finds that her works are of no use, she proceeds to eliminate the superfluous article."

In the May number of the *Popular Science Monthly*, Mr. W. C. Gouinlock continues the discussion of the subject. He does not think the habit of wearing warm coverings on the head, or of cropping the heads likely in itself to be of injury to the hair follicles and result in alopecia. The habit of wearing warm coverings on the head is not of recent date; the armies of Europe, for instance, no inconsiderable number of men, with heads close-cropped, have worn for a long period warmer and heavier head-gear than the modern dwellers in cities, without the same tendency to baldness. Nor are the heavy fur coverings of northern races incompatible with luxuriant hair." He does not think that close cutting of the hair has anything to do with baldness; certainly the habit of shaving the beard does not seem in races or individuals to cause disappearance of that hirsute appendage, nor does cropping the hair at the back of the head and neck, regions which are habitually cut close, favor baldness of those regions.

With regard to indoor life, this is less a factor in the production of alopecia than Mr. Eaton supposes; on the one hand, women who are the most confined indoors are the least subject to baldness, and, on the

<sup>1</sup> Reliable statistics as to the percentage of baldness among women would be interesting, but proportionately difficult to get at. We have recently become cognizant of a complete general alopecia affecting three female members of a family, a mother and two grown daughters.

other, falling of the hair is by no means infrequent in persons whose occupation keeps them most of the time in the open air.

Mr. Gouinlock believes that the common form of baldness is due entirely to the kind of hat that is worn, principally to the "high hat, and the hard-felt hat," and also "to any other head covering that constricts the bloodvessels which nourish the hair-bulbs." By close-fitting, heavy and rigid hats, the arterial blood-flow to the hair-bulbs and the return of venous blood are obstructed, and the result is an impairment of nutrition and final atrophy. "Few," he declares, "will escape the evil effects of twenty or thirty years of rigid tight-fitting hats, the destructive process being delayed only by the length and frequency of respites from this tourniquet of fashion."

If these conclusions are sound, the present generation should endeavor to undo the evil by the timely adoption of softer head coverings, whose loose rims can neither constrict the arterioles nor starve the hair-bulbs. The wearing of the unventilated beaver, which, according to Dr. B. W. Richardson,<sup>1</sup> "is a ready method of suppressing the natural growth of hair, and of causing to be retained in the hair that effete epithelial scale vulgarly called scurf," should be interdicted; and the hard-felt hat, unless it be ventilated at the top and worn loosely on the head, so as to be at the mercy of every gust of wind, must go the way of other unphysiological fashions.

As physiologists we may be permitted to doubt the adequacy of the cause assigned for our natural baldness by Mr. Gouinlock, although his view has the endorsement of so high an authority as the author of "Diseases of Modern Life."

#### MEDICAL NOTES.

— Antithermin is the latest reported antipyretic.

— Dr. Freire, of Rio de Janeiro, is in Paris demonstrating his yellow fever germ before a committee appointed by the Société de Biologie.

— Professors H. P. Bowditch, of Harvard, Mendenhall, of Terre Haute, Ind., and Cook, of Brunswick, Ga., have been elected members of the National Academy of Sciences.

— President Cleveland has appointed George M. Sternberg, M.D., Surgeon United States Army, to examine and report upon the question of inoculation against yellow fever.

— It is reported that another patient of M. Pasteur's has died in Paris. He was a Spaniard, named Ramon, who was bitten by a wolf on February 15th, and was at once sent to Paris, where he went through the "Pasteurian treatment." This is said to be the forty-fifth death from hydrophobia after treatment by Pasteur.

<sup>1</sup> Diseases of Modern Life, p. 287.

— The Marine Hospital bureau is informed that the Indians in the vicinity of Yuma, Ari., are suffering from a severe epidemic of measles, which had proved fatal in sixty cases up to the 16th of April.

— Our English confrères are chafing under the carriage-tax, which in spite of efforts to secure its reduction, remains at two guineas, in some cases amounting, it is said, to fifteen per cent. of the cost of a vehicle. To the country practitioners especially, the burden is very heavy, and prevents them from keeping a close carriage for rainy weather, and a cheaper open vehicle for fine days.

— The *London Medical Record* contains the following formula, which has been used to prepare a calming and adhesive preparation, suitable for neuralgias, or tender, inflamed, or abraded surfaces. Bits of linen or silk dipped into it answer the same purpose as the so-called "court plaster": Mastic 3ijj., balsam Peru 3j., narcotine 3j., chloroform 3vj. The three first substances must be powdered separately, and then added to the chloroform.

— The *Therapeutic Gazette* calls attention to massage as an employment especially suited to the capabilities of the blind, in whom the tactile sense is so strongly developed, and remarks that, in Japan, massage has been for a long period of time practised by blind men, who go about the streets with a flageolet, to call attention to themselves and their occupation. It adds the hint that superintendents of blind asylums will do well to consider this as a possible avenue for labor for their pupils.

— Dr. J. A. S. Grant (Bey), writing to the *Provincial Medical Journal* regarding midwives in Egypt, says that he was called to the wife of a Turkish gentleman during her first confinement, a midwife being in attendance. The pains were unusually severe, and though their violence was mitigated by chloroform, to which the native practitioners are, of course, strangers, no progress was made. The midwife proposed craniotomy, saying that the child was dead, and was provoked that the surgeon insisted on forceps, saying that she (the midwife) sometimes performed craniotomy as often as ten times in one day. It evidently was her only operative resource. The child was delivered, alive, and the midwife at once introduced her hand nonchalantly to the uterus and scraped out the placenta, that being her routine treatment.

— Some curious discoveries, according to the *Medical Press*, were recently brought before the Odontological Society of Great Britain by Mr. Charters White. He examined some dental tartar removed from the teeth belonging to dolichocephalic skulls, found in a "long" barrow near Heytesbury, the original proprietors of which were contemporaneous with the Stone Age. Decalcified and examined under the microscope, he found small, drab-colored masses, composed of altered and disintegrated epithelial scales, mixed with the contents of starch-cells. Throughout these masses were scattered grains of sand, due to the practice of

grinding corn between two gritty stones, the effect of which, in wearing down the teeth, is very apparent in the teeth themselves. In addition to the above, he was enabled to identify portions of husks of corn, hairs from the outside of the husks, spiral vessels from vegetables, husks of starch, the point of a fish's tooth, a conglomeration of oval cells, probably of fruit, barblets of feathers, portions of wool, and fragments of cartilage. The idea of deriving information as to the gastronomic propensities of our ancestors by such means is certainly remarkably ingenious. The fertile imagination of the archaeologists will doubtless suffice to build up, on this somewhat slender foundation, a legend which will be handed down to posterity, and ultimately be hallowed by its own antiquity, as well as the antiquity of the material dealt with. In future ages, remarks our contemporary, instead of scratching a Russian to find a Tartar, our descendants will scratch the tartar to find a Russian.

## BOSTON AND NEW ENGLAND.

—At the annual meeting of the Suffolk District Medical Society, held Saturday evening, April 30th, Dr. John Homans was elected President, and Dr. Geo. W. Gay, Vice-President for the ensuing year.

—The Boylston Prize of the Boylston Medical Society of Harvard University has been awarded to Mr. Charles L. Scudder for an essay on "Congenital Talipes Equino-Varus."

—Drs. J. Solis Cohen and Edward Martin, of Philadelphia, made a visit this week to the Physiological Laboratory of the Harvard Medical School to assist at some investigations, by Dr. F. H. Hooper, upon the action of the vocal cords in response to electrical stimulation, the results of which were pronounced very satisfactory.

—A bill passed the Senate of Rhode Island last week, providing that every person, firm or corporation employing minors under sixteen years of age, or women, in any manufacturing, mechanical or mercantile establishment in this State, shall provide suitable seats for the use of such minors and women so employed, and shall permit the use of such seats by such employees when they are not necessarily engaged in the active duties for which they are employed. Every person, firm or corporation who wilfully violate any of the provisions of the law shall be fined not exceeding \$20 for each offence.

## NEW YORK.

—At the "Festival of the Year," a charitable entertainment held last week, at the Metropolitan Opera House, in aid of the New York Skin and Cancer Hospital, about \$5,000 is said to have been cleared.

—A householder in Jersey City has brought suit to recover \$20,000 damages against City Health Inspector Benjamin and his assistants, for dumping night-soil against the rear fence of his premises, in consequence of disease contracted, from which, it is claimed, five children of his died within three days.

—A mother, whose two daughters have been secretly using "arsenic wafers" for their complexion, having applied to the Board of Health to inquire if the practice of selling such articles could not be stopped by the authorities, Dr. Cyrus Edson has been instructed to make an investigation of the matter.

—On the 23d of April, Dr. Charles Sedgwick Minot, of Boston, delivered an illustrated lecture on "The Evolution of the Head," before the New York Academy of Sciences; and, on the 28th, Dr. H. C. Haven, of Boston, read a paper on "Natural versus Artificial Feeding during Infancy," before the Section on Obstetrics and Diseases of Women and Children of the New York Academy of Medicine.

—A dispatch from Middletown, Orange County, dated April 26th, states that no official attempt has yet been made, or is likely to be made, to enforce the orders recently issued by the State Board of Health to the local Boards throughout the milk producing districts, instructing them to "seize and destroy" bobveal before it leaves their jurisdiction. On account of the profit derived from the forbidden traffic by the dairymen, the calf-butchers, and the railroads, public opinion tolerates it, and the local Health Boards are indifferent about the matter.

—A remarkable showing is made by the result of the physical examination of candidates from the public schools for the appointment of a cadetship at the Naval Academy, at Annapolis. The position was offered by Col. L. S. Bryce, member of Congress for the Seventh New York District, to the lads, between fourteen and eighteen years of age, in the district, who should pass the best competitive examination; and, on the 29th of April, twelve youths presented themselves at the College of the City of New York for the trial. The physical examination was made by Drs. Stuyvesant F. Morris, of New York, and Shaeffer, of the Navy, and not one of the twelve was found to answer to the qualifications as regards physique required by the Government for admission to the Academy. Of the candidates, three were rejected for defective eyesight, and four for malformation of the chest or heart troubles, while one was under the minimum stature allowed.

—One of the morning papers, in commenting on a table recently published by the *Pall Mall Gazette*, showing the death-rates of the great cities of the world, from which it appears that crowded London leads the list, while New York is bracketed with Calcutta (a city in which cholera always prevails, and has destroyed 24,000 lives in the last six years), suggests, as one cause of the large mortality in New York, the vile habits of thousands of immigrants living in filthy tenement-houses. One day last week, the Health Department is said to have seized in an Italian grocery on Mulberry Street, two thousand pounds of unwholesome food, including a large number of chickens which had died of tuberculosis. While, according to the census of 1880, the number of persons to each dwelling is 5.79 in Philadelphia, and 8.26 in Boston, in New York the number is no less than 16.37.

## Miscellany.

## DANGER ATTENDING THE USE OF PURE TEREBENE.

DR. HARVEY, of Birmingham, describes in the *British Medical Journal*, January 29, 1887, the case of a man aged fifty-six, a chronic asthmatic, who suffered from the beginning of December with severe bronchitis, with profuse muco-purulent expectoration: "On December 21st he began to take pure terebene (ten drops on sugar every four hours) with great advantage, the expectoration diminishing to nil, and the dyspnea being much relieved. After the treatment had been continued for three days, the patient was seized with intense pain in the region of the left kidney, shooting into the pelvis and down the left thigh, with blood in the urine and severe strangury. Cessation of the terebene treatment, together with the use of poultices and the administration of opium internally, resulted in speedy relief, and left little doubt that the condition was one of intense renal congestion caused by the terebene."

## OBITUARY.

## GUSTAVUS PERCIVAL PRATT, M.D.

Gustavus P. Pratt, M.D., died at Cohasset, Mass., April 29, 1887, after an illness of three months. He was born in Cohasset, February 14, 1840, and passed his boyhood and early school days there, with his grandfather, Dr. Ezekiel Pratt. He entered Phillips Exeter Academy in 1857, and graduated at the head of his class in 1860. Three years later, in 1863, he graduated at the Harvard Medical School. He was appointed almost immediately, by Governor Andrew, assistant surgeon in the Thirty-second Massachusetts Regiment. He became later brigade surgeon, and served in the Nineteenth and Twentieth regiments until the close of the war. In 1865 he went into business in Chicago, but soon returned to Cohasset, where he has since practised his profession with great success. Dr. Pratt was widely known and much esteemed in this part of the State. He leaves a widow and three children.

## E. T. CASWELL, M.D.

Edward Thompson Caswell, M.D., died at Providence, R. I., April 17, 1887, in the fifty-fourth year of his age. He was the son of the late Professor and President of Brown University. Alexis Caswell, D.D., was graduated here in 1853, received his medical education at the Jefferson Medical College, Philadelphia, taking his medical degree in 1859. He continued his medical studies in Europe, especially at Vienna and Berlin; in the latter city under the inspiring influences of Langenbeck, he turned his attention more directly to surgery, and this remained through his life the more attractive branch of his professional work. Returning from abroad in 1862, he was in the hospital service of the government at Portsmouth, Va., until a serious impairment of his health in 1864 compelled him to retire. In 1864 he opened an office in Providence and remained here, in the active practice of his profession, until his death. Successively vice-president and president of the Rhode Island Medical Society, he enjoyed the distinguished honor of being three times called upon to deliver the annual address before that body. In the years 1869-76 inclusive, he prepared the Registration Reports of his State. He was chosen one of the surgeons of the Rhode Island Hospital at its establishment, and was a consulting physician of the Providence Dispensary. He had also been president of the American Academy of Medicine, and was selected to deliver the annual address before the Alumni of Jefferson Medical College in 1879. This is the record of a busy and successful professional life, full of honors fairly earned by the faithful and enlightened service of a man of unusual qualifications for his work. Believing conscientiously in the realities and certainties of medicine, he thought no expenditure of time, health, or money too great, if he could only better prepare himself for the relief of suffering and disease. During the last year of life, when the fatal character of his illness had become a certainty to him, he did not cease from his labors, but continued to the end, bringing cheerfully to others the help that none could offer him. To all the advantages, which his home and associations had bestowed upon him, were added the grace, purity and manly strength of a Christian faith. Wherever known he was appreciated, and the community where he spent his life, mourns for the good physician.

## Correspondence.

## IN-GROWING TOE-NAIL.

[The following letter, sent in for publication, will be sufficiently clear to those who may have read the foot-note on page 324, of the April 7th number of this JOURNAL.—Ed.]

NEW YORK, April 22, 1887.

DEAR SIR, — I beg to acknowledge the excerpt from the *Boston Medical and Surgical Journal*, received through Dr. Hartley. I fancy I have not made myself clear in speaking of your operation. I only intended to convey that it had failed in my hands at times, and in the hands of others, because it had not been properly done. I have used it as is described in your last remarks some seven times with uniform success. In over a dozen other cases, success varied with the amount sliced off.

In styling it a "very little operation," I did not wish to belittle its importance, but only to allude to the fact that such minor operations were rarely to be met with in our large hospitals, and hence I *lugged* it in, so to speak, to emphasize the importance of doing it rightly.

I think, moreover, that I was among the earliest to use your operation here. Yours most truly,

K. S. WEIR, M.D.

TO DR. B. E. COTTING.

## EROSIONS OF THE CERVIX UTERI.

CARLSBAD, April 8, 1887.

MR. EDITOR, — I have read with unusual interest the paper presented by Dr. E. W. Cushing before the Suffolk District Medical Society (Section of Obstetrics and Gynecology) upon this subject, a report of which appeared in the *Boston Medical and Surgical Journal* of March 10th. Of even greater importance, perhaps, because of its advanced pathological reasoning, was the stand taken by Dr. Fitz, on the relation of erosions to cancer. In the present position of accurate scientific observation we are justified, I take it, in attributing to mal-nutrition of the body, a large percentage of these cases of local derangement of cell multiplication and tissue formation. No theory of traumatism or of irritation from noxious secretions can possibly hold, when urged as a primary cause in the case of newly-born children or of young girls. The erosion is a mere symptom of some vicious nutritious action in the cervix, which in turn may be inter-dependent with a constitutional fault of some kind. I have long believed that very many of the specific ailments of women were not so much local in their natures, as general, and that to meet rational therapeutic indications we should first address ourselves to the cause, and later attack the local symptom if demanded. The cervix possesses no potential power to originate tissue degeneration. It is simply impossible for it to inaugurate any such departure from the normal, unless there be a constitutional cause. As cervical erosions may exist without lacerations, it cannot be maintained that the latter originate the mischief. It does not seem to me probable that lacerations of the cervix have anything more than a casual relationship to erosions. Neither can I accept just yet as synonymous terms, glandular endometritis and cervical erosion. One is exaggerated cell-growth and proliferation of the body of the uterus, and the other is more like a retrograde metamorphosis. Excluding cases of cervical erosion due to direct irritating contact of a foreign body, or to the germs of noxious discharges, there yet remains a certain class of cases to be accounted for upon some other hypothesis. The normal tissue of the cervix is changed into a pathological one, because its nutrition has in some way been prejudiced. Its circulatory supply has been interfered with, either the quality or the quantity thereof. There is just a bare possibility that this defect of supply may be carried to such an extent as to produce malignant disease, though I am quite one with Dr. Fitz in failing to see how the epithelial cells are formed out of the

cylindrical ones. It has never yet been proven that a cancer of the cervix has originated from an erosion, and pathological observations certainly disprove any such train of reasoning. Clinical studies point to such a possibility—cases are even cited to prove the fact—but valuable though such clinical facts always are, they lack merit as scientific data. Dr. Fitz is entirely in accord with the most recent pathological researches in Germany. The most eminent pathologists here do not sanction yet the theory of erosions as causes of cancer, because the various steps in the process of growth, degeneration, death and new formation are not known. It rests with those who defend the theory to prove their premises. If there be a predisposition to cancer, by reason of transmitted heredity, conjoined to an erosion of the cervix, it is possible that the inherited tendency may manifest itself in the most vulnerable part. But I am quite sure that many, vastly many

more women go through life with erosions that never manifest any malignancy, than those who consult the medical man for a cancer developing out of an erosion. How is it possible for a non-malignant erosion to take on malignant action in one case and not in another? I mean what are the exact pathological processes at work? If the excitant be circulating in the blood, it might, perhaps, find its more fitting lodgment in the erosion as being the part the least adapted to resist an attack, but even then the characteristic cell should be that of the part diseased, we may never know whether such an assumption be true or otherwise, but it seems to me a tenable hypothesis, that if the woman, in whom subsequently the cancer develops, never had an erosion, she would have developed a cancer later on somewhere; so that it cannot be maintained that the local cause set up the graver sequelae.

HORATIO R. BIGELOW, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING APRIL 23, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrheal Diseases.	Diph. & Croup.	Measles.
New York . . . . .	1,481,920	760	268	15.73	22.23	2.21	7.41	1.17
Philadelphia . . . . .	993,801	—	—	—	—	—	—	—
Brooklyn . . . . .	745,108	—	—	—	—	—	—	—
Chicago . . . . .	725,000	—	—	—	—	—	—	—
St. Louis . . . . .	420,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	156	47	12.16	10.24	2.56	2.56	.64
Boston . . . . .	400,000	203	68	10.78	16.66	1.96	3.43	.49
New Orleans . . . . .	242,750	105	37	10.45	16.15	5.70	—	.95
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
District of Columbia . . . . .	210,000	87	21	16.66	2.38	2.38	2.38	—
Pittsburgh . . . . .	210,000	80	33	15.00	37.50	1.25	3.75	2.50
Montreal . . . . .	186,257	—	—	—	—	—	—	—
Milwaukee . . . . .	170,000	57	20	8.80	13.88	—	5.28	—
Providence . . . . .	121,000	35	13	16.38	18.18	1.82	—	14.56
Richmond . . . . .	100,000	53	13	24.24	12.12	6.06	—	12.12
New Haven . . . . .	80,000	—	—	—	—	—	—	—
Newport . . . . .	19,566	6	0	33.33	—	—	—	16.66
Charleston . . . . .	60,145	36	8	8.34	8.34	2.78	—	2.78
Portland . . . . .	40,000	20	2	—	20.00	—	—	—
Worcester . . . . .	68,583	30	12	—	16.66	—	—	—
Lowell . . . . .	64,061	46	26	49.01	8.68	—	4.34	28.1
Cambridge . . . . .	59,620	29	6	10.33	24.15	—	3.45	6.50
Fall River . . . . .	56,863	22	7	—	13.65	—	—	—
Lynn . . . . .	45,861	13	3	15.38	23.07	—	7.69	—
Lawrence . . . . .	38,825	16	5	25.00	12.50	—	—	—
Springfield . . . . .	37,577	14	2	14.28	7.14	—	—	14.28
New Bedford . . . . .	35,393	16	4	6.25	6.25	—	—	—
Somerville . . . . .	29,992	18	10	22.22	32.33	—	—	11.11
Salem . . . . .	28,084	13	4	7.69	15.38	—	7.69	—
Holyoke . . . . .	27,894	11	7	18.18	18.18	—	—	9.09
Chelsea . . . . .	25,709	14	3	—	7.14	—	—	—
Taunton . . . . .	25,674	5	3	20.00	20.00	—	—	—
Haverhill . . . . .	21,735	6	1	33.33	—	—	33.33	—
Gloucester . . . . .	21,713	6	1	—	33.33	—	—	—
Brocton . . . . .	20,783	5	0	—	20.00	—	—	—
Newton . . . . .	19,759	5	1	—	—	—	—	—
Malden . . . . .	16,407	7	2	—	28.46	—	—	—
Fitchburg . . . . .	15,375	7	4	—	14.28	—	—	—
Waltham . . . . .	14,609	8	1	—	50.00	—	—	—
Newburyport . . . . .	13,716	4	0	—	25.00	—	—	—
Northampton . . . . .	12,896	7	1	—	14.28	—	—	—

Deaths reported 1,901; under five years of age 653; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fever) 271, acute lung diseases 348, consumption 283, diphtheria and croup 84, measles 48, diarrheal diseases 39, scarlet fever 22, typhoid fever 21, cerebro-spinal meningitis 16, erysipelas 11, malarial fever 11, whooping-cough 10, small-pox four. From scarlet fever New York 15, District of Columbia four, Boston two, Pittsburgh one. From typhoid fever, District of Columbia and Lawrence, four each, New York, Baltimore, Boston and Lowell, two each, Pittsburgh, Milwaukee, New Orleans, Charleston, and Holyoke one each. From cerebro-spinal meningitis, Lowell six, New York four, Somerville two, Richmond, Milwaukee, Newport and Taunton one each. From erysipelas, New York four, Boston three, Pittsburgh two, Baltimore and District of Columbia one each. From malarial fevers, New York six, Baltimore three, New Orleans two. From whooping-cough, Boston three, New York and Baltimore, two each, Richmond, District of Columbia and Lynn one each. From puerperal

fever, New York and Baltimore, two each, Pittsburgh one. From small-pox New York three, Pittsburgh one.

In the 22 cities and greater towns of Massachusetts, with a population of 1,062,033 (population of the State 1,941,463) the total death-rate for the week was 24.38 against 22.18 and 21.95 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,000, for the week ending April 9th, the death-rate was 20.5. Deaths reported 3,641; infants under one year of age 818; acute diseases of the respiratory organs (London) 263; measles 250, whooping-cough 117, scarlet fever 41, diarrhoea 33, diphtheria 24.

The death-rates ranged from 17.0 in Portsmouth to 32.6 in Manchester; Birmingham 17.1; Blackburn 21.9; Brighton 17.2; Huddersfield 22.6; Hull 20.1; Leeds 22.4; Liverpool 28.6; London 17.8; Newcastle-on-Tyne 21.3; Nottingham 18.6; Sheffield 21.5.

In Edinburgh 19.4; Glasgow 25.2; Dublin 30.0.

The meteorological record for the week ending April 23, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Apr. 23, 1887.	Barom- eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather.			Rainfall. Duration, Inch. & Min.	Amount in Inches.
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.		
Sunday, . . . 17	29.835	39.0	48.0	34.0	69.0	45.0	41.0	51.0	N. W.	N. W.	N. W.	24	16	16	O.	C.	C.	—	—
Monday, . . . 18	29.818	29.0	35.0	26.0	84.0	100.0	97.0	87.0	N.	E.	N. E.	7	16	21	O.	N.	R.	1	33
Tuesday, . . . 19	29.837	39.0	44.0	28.0	82.0	39.0	48.0	56.0	N.	N. W.	N. W.	16	12	11	O.	C.	C.	2	02
Wednesday, . . . 20	30.039	48.0	56.0	34.0	51.0	35.0	47.0	44.0	W.	W.	N. W.	8	14	7	C.	C.	C.	—	—
Thursday, . . . 21	30.106	47.0	54.0	38.0	45.0	54.0	87.0	52.0	N. W.	E.	W.	4	12	11	C.	C.	C.	—	—
Friday, . . . 22	30.117	51.0	60.0	42.0	51.0	60.0	53.0	55.0	W.	E.	R.	6	12	4	C.	C.	C.	—	—
Saturday, . . . 23	29.939	50.0	59.0	46.0	50.0	57.0	94.0	67.0	S. W.	E.	S. E.	2	14	8	C.	T.	R.	3	.01
Mean, the Week.	29.956	43.0	51.0	35.0				59.0										17	.36

O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; N, snow; Sl, Sleet.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 23, 1887, TO APRIL 29, 1887.

SMITH, J. R., lieutenant colonel and surgeon. By Par. 8, S. O. 92, A. G. O., April 21, 1887. Detailed as member of board to meet in Washington, D. C., April 28, to prepare rules and regulations for the government of the Hospital Corps of the Army.

TAYLOR, MORSE K., major and surgeon. Relieved from duty at Fort Sill, I. T., May 10, 1887, to proceed home, San Antonio, Texas, preparatory to retirement. Par. 20, S. O. 92, A. G. O., April 21, 1887.

HEIZMANN, CHAS. L., major and surgeon. By Par. 8, S. O. 92, A. G. O., April 21, 1887. Detailed as member of board to meet in Washington, D. C., April 28, to prepare rules and regulations for the government of the Hospital Corps of the Army.

AINSWORTH, FRID. C., captain and assistant surgeon. By Par. 8, S. O. 92, A. G. O., April 21, 1887. Detailed as member of board to meet in Washington, D. C., April 28, to prepare rules and regulations for the government of the Hospital Corps of the Army.

CABELL, JULIAN M., first lieutenant and assistant surgeon (recently appointed). To proceed to Fort Omaha, Nebraska, and report in person to the commanding officer of that post for temporary duty. Par. 19, S. O. 92, A. G. O., April 21, 1887.

WOODRUFF, CHARLES E., first lieutenant and assistant surgeon (recently appointed). Ordered for duty at Fort Wayne, Mich. S. O. 96, A. G. O., April 26, 1887.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING APRIL 30, 1887.

ATLEE, L. W., assistant surgeon. Ordered to the Receiving Ship "Vermont."

BIDDLE, CLEMENT, passed assistant surgeon. Detached from the Naval Academy and to Marine Rendezvous, Philadelphia, Pa.

ASHBRIDGE, RICHARD, passed assistant surgeon. Ordered to the Naval Academy.

HUDSON, A., medical inspector. Ordered to the United States Steamship "Trenton."

HIBBETT, C. T., passed assistant surgeon. Ordered to the United States Steamship "Trenton."

DECKER, CORBIN J., assistant surgeon. Detached from the Receiving Ship "St. Louis," and to the United States Steamship "Trenton."

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE THREE WEEKS ENDING APRIL 30, 1887.

GOLDSBOROUGH, C. B., surgeon. Leave of absence extended thirty days, on account of sickness. April 20, 1887.

DEVAN, S. C., passed assistant surgeon. Granted leave of absence for thirty days, to take effect when relieved. April 12, 1887.

BRATTON, W. D., assistant surgeon. To proceed to Port Townsend, W. T., and assume temporary charge of the service. April 21, 1887.

#### SOCIETY NOTICES.

GYNECOLOGICAL SOCIETY OF BOSTON.—The next meeting of the Society will be held at the Medical Library Room, No. 19 Boylston Place, on Thursday, May 12, at 4 o'clock, P. M. Reader: Dr. H. J. Harriman, "The Relation of Improper Allmentation to the Ill Health of Women."

H. J. HARRIMAN, M.D., Secretary.

NORFOLK DISTRICT MEDICAL SOCIETY.—The annual meeting will be held at Rockland Hall, No. 2343 Washington Street, Roxbury, Tuesday, May 10, at 2 P. M. The Board of Censors will meet at 1 P. M. Order of business: 1. Reading of Records. 2. Report of Committees. 3. Election of Officers. 4. Report of Treasurer. 5. Incidental Business. 6. Communications: (a) "The Third Stage of Labor," E. G. Morse, M.D. (b) "A Case of Probable Intussusception with Recovery," E. F. Dunbar, M.D. 7. Introduction of newly-elected Officers.

S. ALLEN PUTTER, M.D., Secretary.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.—THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, May 11th, at 7.45 o'clock. Papers: Dr. F. W. Stuart, "Can Cirrhosis follow Trauma? a Case of Medico-Legal Interest." Dr. F. I. Knight will report "A Case suggesting some Considerations in regard to the Contagiousness of Tubercular Disease of the Lungs." Dr. John S. Billings, of Washington, is expected to be present, and to take part in the discussion.

ALBERT N. BLODGETT, M.D., Secretary.

F. I. KNIGHT, M.D., Chairman.

#### BOSTON CITY HOSPITAL EXAMINATIONS.

The semi-annual examination of candidates for the position of externe at the Boston City Hospital, will be held Wednesday and Thursday afternoons, May 11th and 12th, at the Hospital, at 4 P. M. E. H. BRADFORD, Secretary.

160 Boylston St., at Home 1-3 P. M.

#### DEATH.

Died in Cohasset, Mass., April 29, 1887, Gustavus Percival Pratt, M.D., M.M.S.S., aged forty-seven years.

#### BOOKS AND PAMPHLETS RECEIVED.

The Rhus Glabrum. A Remedy for Stomatitis. By Hiram Corson, of Conshohocken, Pa. 1887. (Reprint.)

Will Contests. By Walter E. Rex, Esq., formerly Register of Wills for the City and County of Philadelphia. 1887.

Cocaine in General Surgery. By John B. Wheeler, M.D., Instructor in Surgery, University of Vermont. Montpelier, Vt., 1887.

Report of the Commission appointed by the Governor of Minnesota to Locate and Prepare Plans for a Third Hospital for the Insane. St. Paul, 1887.

A Successful Case of Partial Excision of the Larynx on account of Intra-Laryngeal Epithelioma. By Lennox Browne, F.R.C.S. Ed. (Reprint.)

Some Considerations concerning Cancer of the Uterus, especially its Palliative Treatment in its Later Stages. By Andrew F. Currier, M.D. 1887. (Reprint.)

## Original Articles.

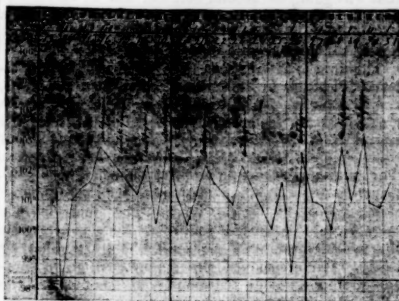
A CASE OF DIFFUSED GANGRENE OF THE RIGHT LUNG, FOLLOWING PYORRHEA ALVEOLARIS.<sup>1</sup>

BY C. ELLERY STEDMAN, M.D., OF DORCHESTER, MASS.

I WAS asked by the husband of a patient to meet her at the dentist's, where she was to have all her teeth extracted, and administer the ether. The operation was done by Dr. F. F. Gage, with great rapidity and skill, on the 8th of October, 1885. During anesthesia she collapsed, and for five minutes seemed moribund. The anæsthetic having been suspended, the blood cleared from the mouth, a subcutaneous injection of a drachm of brandy given, the operation was completed. She rallied in half an hour from the ether, and was driven home in a close carriage.

This patient was thirty-one years old, and had been married four years. Her father died of pneumonia; her mother, now living, lost her teeth several years ago, as did the patient's brother. A paternal grandfather died of cancer. Aunts and uncles are presumed to be healthy. She had never been a robust woman, and had been under treatment for various ailments since childhood. She was specially subject to chills, which were called malarial, but which were probably due to the condition of her gums, which had been diseased for eight years or more. She always suffered abnormally from the usual cold of winter, and then experienced difficulty in respiration. The summer before the teeth were removed she had amenorrhœa and other symptoms of pregnancy, which condition an examination proved not to exist, and she improved greatly on spending the summer at the shore.

On the day before the operation she had one of her chills, but it did not confine her to her chamber. The teeth having been extracted on the 8th, a slight cough and fever developed on the 9th. The gums healed in quickly, and such fetor was noticed as would be expected from the suppurating surface, and was relieved by a myrrh lotion. For a day or two she seemed to be recovering from the operation, as, on the 10th, the temperature was 98°; but, on the 13th of October, pneumonia was suspected, because the temperature shot up to 103.4° (the highest point it reached). The pulse was as high as 120 on one day only. There followed cough; scanty expectoration of not very viscid sputa, at rare intervals, rusty. During the first few days there was some delirium. The physical signs, at first, were negative; to the last, the front of the chest was clear, and the heart-sounds normal. Evidences of consolidation were heard in the middle of the right back, and extended downwards and upwards, till little or no free respiration could be heard. Once or twice the left back was suspected, but the sounds were transient, and proved to be transmitted. There was little or no pain. The sputa, never abundant, grew more and more fetid. This was at first ascribed to the condition of the gums, but these healed with remarkable speed, and probably, by the third day, presented no suppurating surface. After one or two remissions, which, for a day or two at a time, gave hope, she died, in full consciousness, at midnight of the 31st of October, on the nineteenth day of the disease. Dr. Whittier saw her twice in consultation. The chart is appended. The autopsy was made by Dr. Fitz on the 2d of November, and he has kindly sent me his notes.

<sup>1</sup> Read before the Norfolk District Medical Society.

AUTOPSY, THIRTY-FOUR HOURS AFTER DEATH.

Rigor mortis present. Frame small; well-formed; abundant subcutaneous fat-tissue. Head not opened. Nothing abnormal found on examination of heart and left lung. Right lung adherent throughout by fresh adhesions, except at the base, in front and behind, where circumscribed cavities were found. In each were about four ounces of foul-smelling, opaque, greenish-yellow fluid; these cavities communicated with the interior of the lung through sloughing tissue. The right upper lobe showed nothing abnormal; the lower lobe moderately retracted. A few cavities as large as English walnuts were present, with sloughing walls and offensive contents. In several instances, the beginning cavity-formation followed the course of the bronchial distribution, dilated bronchi being thus suggested. There was but little solidification of the lung-tissue between the gangrenous centres. The spleen was slightly enlarged and soft; the kidneys and liver presented the appearance of parenchymatous degeneration. Bladder not abnormal. External examination of stomach and intestines showed nothing abnormal. The sigmoid flexure formed an unusually large loop: adherent to its mesentery was the left ovary, apparently more than two inches from the uterus. The latter organ, of the average size, was malformed, consisting of but one horn—the right. The left horn was represented by a thin, flat, red band, within the broad ligament, and to which was attached a fibromyoma as large as a plum. About an inch and a half from the attachment of the band to the uterine wall, the round ligament was given off. The left Fallopian tube was not recognizable. The left ovary normal in appearance. Diagnosis: Gangrenous broncho-pneumonia; putrid empyema; malformation of uterus (one horn developed, the other solid and rudimentary, with a fibro-myoma).

In the chart, you will notice the low run of the pulse, temperature, and respiration; the course of the disease—nineteen days—so different from the record of a frank case of pneumonia. The remissions of temperature on the second and thirteenth days are worthy of note. You will also see how the temperature fell after moderate doses of antipyrine, which was always given with brandy. The treatment was liberally restorative: she took enough milk, champagne, and other food and stimulants readily, and retained them all. The slight delirium spoken of above did not cloud her mind, and, as has been said, she died aware of all

that was going on around her, and was so mistress of herself, that she expressed a desire to make her will; and, after it was drawn up, she signed it very shortly before her death.

The disease of the gums from which the patient suffered is called, by the dentists, pyorrhoæa alveolaris, and by some Riggs's disease. It appears to begin with a calculeous deposit around the necks of the teeth, and is said to be not uncommonly found in the mouths of very young patients—say, even those of two years. The deposit can be seen, and its presence is also manifested by a more or less distinct line of inflammation about the necks of the teeth. The gums become more or less congested, and cover the deposit, while the mischief proceeds in secret, the gums bleeding easily. If not removed, this deposit will go on hardening, clinging more tenaciously to the necks of the teeth, and extending its boundaries . . . the soft tissues shrink or recede . . . the disease attacks the hard tissues, and they yield more or less rapidly. The thin edges of the alveolar process are the parts now involved, and, from the breaking down of their structure, we have an easily perceptible discharge of pus. It is more intractable when hereditary.<sup>2</sup> The remedy for this formidable disease is the early removal of the deposit, or extraction of the teeth when it is advanced.

Gangrene of the lung is a rare disease. The case under consideration is the first in my own practice, and I recall only one or two in my hospital experience. In 1866, Dr. Austin Flint had seen fifteen cases, and cites the record of 1,069 autopsies by Lauthna, of Vienna, who found among them only five instances. Fischell, of Prague, in 3,437 necropsies, noted 75 cases of pulmonary gangrene. Ten years' post-mortem records in St. George's Hospital afford nineteen cases only. The fatality of the disease is large; the patients generally die before the slough can be cast off, its presence setting up septicaemia or secondary pneumonia. Dr. Coupland<sup>3</sup> has collected some cases, principally reported with a view to operative procedures, in an able and interesting paper in the *British Medical Journal* of the 5th of September, 1885. The cases in the autopsy-book of the Middlesex Hospital, from 1875 to 1885, numbered thirty-eight. In a paper in the *Boston Medical and Surgical Journal*, 26th of October, 1876, Dr. Thomas W. Huntington reports thirty-two cases in the Massachusetts General Hospital, from 1857 to 1875. Of these, seven were discharged well, six much relieved, three temporarily relieved, five not relieved, eleven died. In summing up, Dr. Huntington finds that 73.3 per cent. of cases uncomplicated recovered, while complicated cases showed 80 per cent. of deaths.

The most frequent cause has been thought to be acute pneumonia, ending in gangrene, but I think that if a full history of each case could be procured, most of the patients would be found to have been exposed to some septic influence. Again, drunkards are peculiarly liable to this form of inflammation of the lung. Blocking of the pulmonary vessels does not necessarily lead to gangrene, but rather to that form of necrosis which is known as hæmorrhagic infarction, unless the occluding matter be of septic character. The inhalation of putrescent matter is a cause, such as retained bronchial secretions, or morbid extra pulmonary products, or foreign matter from without. Malignant ulceration in the mouth is stated as a cause in

more than one case. It often happens that after the first urgent symptoms of impaction had ceased, the patient lies in a condition of comparative comfort. Dr. Sydney Coupland cites illustrations of all these instances. Octavius Sturges adds cancer, carious vertebrae, and aneurismal tumor. Dr. Coupland also says the relationship between gangrene of the lung and acute lobar pneumonia has hardly yet received satisfactory explanation. Laennec considered that the surrounding inflammatory change was purely secondary, and there is, no doubt, much truth in this view of the case. But yet there remains a fair proportion where there seems no room for questioning the fact that acute pneumonia has ended in gangrene. In the rest, the limitation of the pneumonic areas, the distribution of the gangrenous foci, point to the hepatization being secondary to the gangrene. At the same time, no adequate cause for the gangrene can be assigned.

Octavius Sturges<sup>4</sup> is strong in statement that true pneumonia never ends in gangrene. He writes that the cases which are obnoxious to gangrene are precisely those which are least liable to true pneumonia; are those, it almost might be said, where the state of the blood renders such an occurrence impossible. We have the testimony of authors that the liability to gangrene varies inversely with the liability to pneumonia. Gangrene of the lung is more rare in enteric fever than in typhus. Pneumonia is more rare with typhus than with enteric fever. . . . Dr. Stokes, who is little prone to accept doctrines on the mere authority of others, insists on the close connection between gangrene and what he elsewhere describes as "typhoid pneumonia." . . . A separate form is met in children. . . . The extravasation of blood (hæmoptysis) may terminate in a gangrenous cavity, the access of air to a lot determining its putrefaction, and, eventually, that of the surrounding tissues. M. Grisolle, who concurs with Frank, Laennec, and Andral in regarding this event of pneumonia as very rare, investigated the history of seventy reported cases of pulmonary gangrene. He relates that he could hardly find five out of the seventy which could, in strictness, be regarded as examples of pneumonia so terminating. Dr. Thorowgood gave Dr. Sturges particulars of a case, in which the characteristic and overpowering fetor of pulmonary gangrene arose in a pneumonia of no great severity, and which ultimately recovered, under his care, at the West London Hospital.

Gangrene of the lung occurs in two forms: the diffused and the circumscribed.<sup>5</sup> In the former, the gangrene extends over a considerable space, sometimes involving the greater part of a lobe. This is the graver form, and almost of necessity proves fatal. The circumscribed form is that which usually occurs. In this kind, the gangrene is confined to a space limited in size from that of a bean to a hen's egg, the limits being sharply defined. Even when circumscribed, it is an extremely grave affection, but recovery takes place in a certain proportion of cases. The chances of recovery are differently estimated by different writers, which may, perhaps, be accounted for by supposing that the diagnosis of gangrene is not infrequently based on insufficient grounds. Fetid sputa are not restricted to this disease. Among the conditions simulating gangrene of the lung, are the sloughing of pulmonary tissues in tubercular cavities, a superficial slough of a

<sup>2</sup> Dr. George A. Mills. Dental Cosmos, Vol. XIX.

<sup>3</sup> British Medical Journal, September 5, 1885.

<sup>4</sup> "Natural History and Relations of Pneumonia," London, 1876.

<sup>5</sup> Flint's "Practice of Medicine," first edition.

portion of the bronchial mucous membrane, and the retention of old secretions in cases of bronchiectasis.

We thus have the history of a patient never very strong, who, after long disease of the gums, under which pus was secreted, fell a victim to pulmonary gangrene. As malignant ulcerations of the mouth are a cause of this disease, so the condition of the alveolar mucous membrane placed her in a favorable state for the onset of the fatal illness. Gangrene of the lower lobe of the right lung set in, and, to the septic condition of the mouth, may be added, as a possible cause, entrance of blood into the bronchi during the operation of extraction, particularly during the collapse. Perhaps the collapse, too, may have been caused by the plugging of a bronchial tube with blood flowing from the gums into the trachea during anesthesia. The decomposition of such clots, even when caused by hæmoptysis, has been noted above as originating this form of disease. Careful search was made in the autopsy for the signs of any such plugging, but none could be found. I am more inclined to place the cause of death with the long disease of the gums, favoring the fatal illness.

#### CASE OF ATTEMPTED SUICIDE FROM THE INGESTION OF THIRTY-SIX GRAINS OF MORPHIA, WHICH REMAINED IN THE STOMACH FIVE HOURS. RECOVERY.

IN THE PRACTICE OF DR. L. E. LEMEN, DENVER, COL.

REPORTED BY SAMUEL A. FISK, A.M., M.D., DENVER, COL.

WILLIAM P., aged thirty-eight years, a German, six feet in height, about two hundred pounds in weight and of powerful build, becoming tired of life attempted suicide by taking a large dose of the sulphate of morphia. At ten o'clock on the night of March 6, 1887, in the presence of a woman with whom he had had a disagreement, he opened a one-eighth of an ounce bottle of Powers & Weightman's sulphate of morphia, which he had bought for the purpose of committing suicide, poured out a large quantity on to the palm of his hand, and ate it down. The drug remaining in the bottle proved to weigh twenty-four grains, making the amount that he took in the neighborhood of thirty-six grains. After taking the drug he remained in the woman's room some ten or fifteen minutes, when, under the apprehension that a physician was being called, he ran down stairs, jumped into a hack, and was driven about a mile and a half to his home. On the way he opened a small vial of the spirits of chloroform, that he had with him, and drank a fluid drachm. When he reached his house and got out of the hack, the driver thought he was drunk. P— afterwards stated that the last thing that he remembered was his getting into bed on reaching home. He drank freely of water and, on the arrival of the woman with whom he had quarrelled, he was given a couple of glasses of milk, and a physician was summoned.

Half-past twelve, March 7th. Two and one-half hours after the ingestion of the drug, Dr. L. E. Lemen, who was called and who took charge of the case, arrived. Respirations were six per minute; pulse sixty-eight. Pupils pin-hole. Patient cyanotic. Ten grains of tartar emetic were placed upon the tongue and an attempt was made to wash it down, but the reflex effort of swallowing could not be excited. The at-

tempt and the dose were repeated, with a like effect, in about twenty minutes. Twenty minims of the fluid extract of belladonna were given hypodermically at 12.30, A.M., and the dose was repeated at 12.45, and again at 1.15.

Quarter-past one, A.M. Three and one-quarter hours after ingestion of the drug, I arrived with my battery. Found the respirations three per minute; pulse eighty-four. Pupils moderately dilated, due, no doubt, to the belladonna. We immediately applied the galvanic current from eighteen cells of a McIntosh Battery, the negative pole being placed over the right superior, carotid triangle, the positive over the præcordium, and the current interrupted very slowly. Galvanism and the belladonna brought up the respirations, both in depth and number.

Two, A.M. Four hours after ingestion. One-sixth grain of apomorphia was given hypodermically and an attempt to wash out the stomach with a soft-rubber tube was made, which failed, as the tube was not stiff enough. The hypodermic injection of apomorphia, one-sixth grain dose, was repeated in about twenty minutes after the first injection and followed in twenty minutes more by a third injection, making one-half grain in all of the drug that was given hypodermically, but it was of no avail.

Three, A.M. Five hours after ingestion. Galvanism having been kept up pretty constantly, an œsophageal tube was introduced into the stomach and it was thoroughly emptied and washed. The citrate of caffeine, grains fifteen, in solution, was then administered by the tube and the tube withdrawn. At this point the respirations ceased, the heart stopped beating and could not be heard over the præcordial region. The face and surface of the body became pallid, and we were afraid that life had flown.

Galvanism from eighteen cells was applied as before, and after three or four minutes a shallow inspiration occurred, and a second, and a third. Electricity was continued, the expirations were increased by compressing the chest, the heart started beating again, the respirations were restored, and the patient broke out into a profuse cold sweat.

Four, A.M. Six hours after ingestion. The stomach tube was introduced a second time and fifteen grains more of caffeine administered. On withdrawing the tube the pulse and respirations stopped as before, and were reproduced by galvanism as described. The respirations soon became Cheyne-Stokes in character, four or five series to the minute, and from that time for several hours but little was done except to stimulate the inspirations with a weak galvanic current whenever they seemed to flag.

Nine, A.M. Eleven hours after ingestion. Respirations eighteen per minute and fairly regular. Pulse one hundred. Patient unconscious.

Eleven, A.M. Thirteen hours after ingestion. Gave strong coffee, by spoonfuls between the cheek and the teeth, some of which would be drawn into the trachea and produce a violent coughing and the patient would thus become partially aroused, but dropped off instantly into slumber again. Could arouse him and make him cross for an instant or two, by pulling his beard. Slapping the face with a wet towel produced contractions of the orbicularis palpebrarum and corrugator supercillii. The citrate of caffeine in six-grain doses was administered every two hours for four or five doses, and we kept pouring down black coffee by

spoonfuls and by arousing patient enough for him to drink a little.

Three, P.M. Seventeen hours after ingestion. Vomited a little. Could be aroused sufficiently to be made to walk, supported by a man on either side. Pulse one hundred and twenty and thready. Respirations normal. Very drowsy, but could be kept from going into a deep sleep by talking to him. Skin bathed in perspiration.

Six, P.M. Twenty hours after ingestion. Sufficiently conscious to answer questions intelligently. Voice very husky, and he complained of his throat's hurting him. That night he vomited profusely and repeatedly.

The subsequent history was marked by great physical prostration; by a sore throat, on which some sloughing patches occurred; and by a cough, which with the ulceration in the pharynx lasted about ten days. At the end of that time he was able to get up and be around, and to-day he is a well man.

The interest of this case attaches to the fact that so large a dose of morphine could remain for five hours in the stomach of a perfectly healthy man, subject to the rapid absorption that would come from the stomach being empty, and yet that recovery should take place.

That the amount taken was about thirty-six grains, we feel sure, because he bought a fresh one-eighth ounce bottle, opened it in the presence of the woman, poured out a large quantity of the drug on to the palm of his hand, and ate it down. The remnant left in the bottle weighed just twenty-four grains.

That the drug taken remained in his stomach five hours we are equally positive, because from the time of his taking the drug, until his stomach was washed out, five hours afterwards, he was constantly in the presence of some person, and there is no history of his having vomited or purged in that time.

It is unfortunate that the washings of the stomach were not saved, so as to have determined accurately the amount of the drug that was not absorbed, and so, to have learned the real point of interest, the quantity of the drug that was absorbed. But so desperate did the case look, at the time, that it did not occur to us that there would be any need of reporting it, save to the Health Office, and the washings were thrown away.

We offer no excuse for the extreme measures taken in handling the case, except the urgency of the symptoms and the final recovery of the patient.

We are conscious that the stomach should have been washed out earlier than it was, but the delay was in a large degree unavoidable. The case has taught us, however, the necessity of emptying and washing the stomach even in apparently hopeless cases.

In turning to the books on my shelves, I find a case, cited by Reese in his "Manual on Toxicology," where a druggist swallowed *seventy-five* grains of sulphate of morphia. No marked symptoms appeared for an hour and a half, when he began to feel sleepy and had a staggering gait, soon after this emetics were given; causing free emesis. Despite the fact that the amount of the drug ingested was twice that taken in the case here reported, the absorption was evidently not as great—due to the fact that it was retained only an hour and a half, as against the five hours in this case.

Ziemssen's Cyclopædia (Vol. xvii), states that Bonjean witnessed a recovery after twenty-five grains of the acetate of morphia were taken: and Wood, (Ther-

apeutics, etc., p. 216), says the maximum doses from which recovery has taken place *without* emesis are fifty-five grains of the solid opium, equivalent to nearly seven grains of morphia.

## A CASE OF PREGNANCY IN A UTERUS BILOCULARIS.<sup>1</sup>

BY G. S. STEBBINS, M.D., SPRINGFIELD, MASS.

MRS. A., thirty-six years of age, had been married ten years, and never been pregnant. She had always been an intense sufferer from dysmenorrhœa, having been obliged at every menstrual period to remain in bed from three to four days, and have hypodermic injections of morphia administered, or resort to frequent use of opium suppositories per rectum. I am confident that her sufferings during her periods, taken altogether, were greater than those attendant upon ordinary cases of labor. Pregnancy had been suggested to the patient as the most hopeful remedy, but however gladly she would have availed herself of the relief that such a condition might have afforded, it was quite evident that there was some physical impossibility that stood in the way. Examination per vaginam revealed a very narrow, contracted os, which well-nigh amounted to stenosis of the cervical canal, and which, I assured the patient, was the cause of her sufferings, and her non-pregnant state. As the patient was desirous of obtaining relief at all hazards, I suggested dilatation of the cervix, which operation she finally assented to. I dilated pretty thoroughly with the steel dilator, and in a few months afterward she became pregnant as was supposed, but the question of pregnancy was rendered a doubtful one, by the subsequent history of the case for four or five months.

About six or eight weeks after her last period, she began to experience intense pain in the right ovarian region, the abdominal walls at the same time becoming so sensitive, that she could not turn in bed, nor hardly tolerate the weight of the bed-clothes. These symptoms continued very severe, and were unendurable unless she was continually under the influence of opiates. Soon there began to be visible enlargement in the right iliac region, the modulated, uneven outline of what appeared to be a tumor being readily mapped out by gentle pressure, the growth seemingly extended just above Poupart's ligament, the upper border rising up inside the ilium to its anterior superior angle. At the termination of the fifth month, there was no enlargement in the median line perceptible to the eye, nor to be distinguished by pressure on the abdominal walls; neither did examination per vaginam reveal anything except an elongated, oedematous condition of the posterior lip of the os, which felt like a bladder of water. A sympathetic condition, manifested according to some authors, in cases of tubal foetation.

The uterine cavity was still apparently empty, as far as the vaginal examination shed any light upon the case. The following question now arose: was she really pregnant? If so, was it a case of extra- or intra-uterine pregnancy? Had she a tumor? If so, was it ovarian; or was it some growth involving the broad ligament? If either of the latter, was the growth benign or malignant?

At this juncture, at my suggestion, a veteran in

<sup>1</sup> Read before the Springfield Society for Medical Improvement.

obstetrical warfare was called in council to help solve the problem. After a thorough examination of the case, he stated, with convincing assurance, that he could tell what it *was not*, but was unable, by any and all means, even by method of exclusion, to arrive at a positive, or even anything like a satisfactory diagnosis.

So far as we could arrive at conclusions, we agreed that the uterine cavity proper, was empty. This fact was quite apparent. We further agreed that if it was a case of tubal foetation, rupture should and doubtless would have taken place long before. Motion should also have been noted at this date, but had not been discovered. We finally agreed that it only remained to await the progress of events, and to treat the symptoms as they should become urgent.

From this time forward, for at least two months, until the completion of the seventh month, the abdominal enlargement continued to the right of the median line, but gradually extending toward it, until early in the eighth month, when the fundus of the uterus appeared to be reaching nearly its normal position, and the abdominal development presenting a uniform appearance. At the beginning of the ninth month, examination per vaginam disclosed the fact of head-presentation.

During the whole term of gestation, pain, and great abdominal tenderness continued, the patient having been obliged to remain in bed continually for the last seven months, unable to turn or lie on either side. Once she was assisted out of bed and tried to walk around it, but after taking a few steps sank to the floor. During the last two months, syncope, lasting from one to three hours, became an annoying, not to say an alarming symptom. At these times she could hardly speak above a whisper, or raise her hand, and required constant fanning in order to breathe.

With such a history antedating labor, of course I anticipated that event with no little anxiety, and not a few misgivings. The patient's female friends, with that wonderful and mysterious lack of sense so characteristic of women on kindred occasions, expressed grave doubts as to the final results of the case, and assured her that she need not hope to have a living child: which prophecies, I am happy to say, were not fulfilled.

When labor began, as might have been expected, the pains were irregular, weak, and the first stage of labor slow and tedious. Labor, however, progressed slowly, until the head began to press slightly upon the soft parts, when all progress ceased, and the patient appeared much exhausted, a condition to be expected, considering the case. I then applied the forceps, and delivered in fifteen or twenty minutes, Dr. Baggs having etherized the patient. While I was attending to other matters, Dr. Baggs kept up firm pressure upon the uterus, which contracted fairly well, but later, our united efforts of traction upon the cord and expression, failed to dislodge the placenta, after which, I introduced my hand into the uterus, where I not only found a firmly adherent placenta, but a solution of all of the unusual phenomena attending her whole period of gestation.

I could distinctly feel a strong membranous septum, which divided the uterus vertically, into two compartments. One portion of the placenta extended high up on one side the partition, and the other portion occupied a corresponding position on the opposite side of the septum, proving the case to be one of a uterus bi-

locularis, so well-described in Courty's work on "Diseases of the Uterus, Fallopian tubes, etc.," and in Getchell's "Obstetrics."

Pregnancy having taken place in the right cavity of the uterus, it might have been the cause of the lateral flexion of the organ low down in the iliac region, where the first period of development was so manifest, and troublesome; but it is more than probable that the uterus was laterally flexed *prior to pregnancy*, the latter being the diagnosis of Professor Breisky, of Prague, in a case coming under his observations during the past year, presenting a similar history, and the same general array of symptoms.

Had we used a uterine sound as a means of diagnosis in the early months of pregnancy, it would most likely have been introduced into the left cavity of the uterus, which would have been found, and declared to be empty.

The great pain and tenderness during the first seven months of pregnancy, I account for in this way: the growing foetus gradually raised the laterally inclined uterus toward the median line and normal position, at the same time crowding the septum to one side, until finally it worked its way down into the lower portion of the uterine cavity, by the yielding of the lower portion of the septum. Before the placenta was removed, the contracted uterus appeared larger than is usual, and its shape as felt through the abdominal walls, was peculiar. Instead of feeling like a globular body, it was broad, triangular in shape, and in the median line a well-defined depression could be distinctly felt on pressure. Getchell, in his work on obstetrics, in describing such a case says: the breadth of the uterus is greater, especially at the fundus, where a depression in the median line indicates the situation internally of a vertical septum, which more or less completely divides the uterine cavity into two compartments. He adds: "Great difficulty and danger may arise during the progress of gestation."

He cites what he calls a remarkable case of Rokitsansky's, the pathological specimen of which is now to be seen in the Vienna Museum. In this case death took place from rupture of the septum in the third month, the termination as he says, being what one would expect from development of the ovum in the Fallopian tube.

Rokitsansky, in speaking of the effects of such uterine anomalies on parturition, says: "the axis of expulsion may be so directed as to place the forces at an obvious disadvantage, but when complete intra-uterine development has taken place, there will not likely be any impediment during delivery, which may not be overcome by the application of ordinary principles."

Having given the history of the case antedating and during labor, together with a description of the attendant uterine anomalies, I will speak of the subsequent history. Considering the long-continued pain and tenderness about the abdomen, I confidently expected puerperal peritonitis, and was not in the least disappointed. The whole abdomen soon became exquisitely sensitive, painful and tympanitic. The temperature ranged from 102° to 104°, for about ten or twelve days, and the pain was so severe as to require the free use of hypodermic injections of morphia, and suppositories of opium and belladonna per rectum. Quinine and turpentine were given internally, the former to reduce temperature and for its tonic effect; the latter to relieve the discomfort due to the tympanitic condi-

tion. The bowels were occasionally relieved by injections and saline laxatives. The tympanites was so distressing at times, that it was best relieved by the introduction of a tube high up in the rectum, through which the gas freely escaped. The abdomen was kept covered with poultices of flaxseed and mustard, and later, was painted twice daily with tincture of iodine. I have said that the patient remained in bed seven months prior to her confinement, and I believe it was just three months after labor before she could walk a step. She first began to walk the 7th of March, and can now, April 1st, get about the house nicely and carry her child in her arms. The child weighed eight and one-half pounds at birth.

The patient, not nursing her child, has menstruated once since her confinement, and was rejoiced to know that the function was comparatively painless. I am now confident that the pregnancy, though a severe remedy, will result in a greater measure of health and comfort for the remainder of her menstrual days.

#### REPORT ON DERMATOLOGY.

BY G. H. TILDEN, M.D.,

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##### FIBROMA MOLUSCUM.

Drs. HÜRTLE and C. Nauwerck<sup>1</sup> report five cases of elephantiasis (*sic*), the examination of which confirms the statement of Von Recklinghausen, that the development of fibroma moluscum has its starting point in the cutaneous nerve-sheaths.<sup>2</sup> In three of these cases, the condition of things was found to be in all respects the same as that described by Von Recklinghausen, and, in one instance, the very earliest stage in the evolution of multiple neuro-fibromata could be demonstrated. This consisted in a thickening of the endoneurium, and later, also of the perineurium of the cutaneous nerves, which resulted in induration, spindle-formed swelling, and nodulated thickening of the affected nerve-fibres. Further developments of this nodulated condition of the cutaneous nerves implicated the adjacent hair-follicles, sweat-glands, and blood-vessels in the pathological process, several of the latter being almost obliterated by cell proliferation in their intima.

The newly-formed connective tissue, of which the tumors were composed, contained numerous nuclei, and was easily to be distinguished from the more coarsely-meshed cutaneous connective tissue. Even in the largest tumors, it was always possible to detect the string of cells, representing the nerve-fibre which had been primarily affected, and from which originated the new formation of connective tissue composing the tumors.

In a fourth case, which presented, on the thighs, a condition of diffused fibrous thickening, resembling in appearance ordinary elephantiasis, the same atrophied residua of nerve-fibres could be made out in the midst of the newly-formed and abundant cellular connective tissue, which had involved and imprisoned the cutaneous glands, hair-follicles, and the subcutaneous fat. In regions of the body where the pathological process was less advanced, the thickening of the skin was almost entirely caused by the formation under it of these

neuro-fibromata. The fifth case represented an instance of ordinary and acquired elephantiasis lymphangiectica, which, in contra-distinction to the other four cases of so-called neurotic elephantiasis—more properly speaking, multiple neuro-fibromata—presented no affection of the cutaneous nerve-fibres, but, on the contrary, enormous dilatation of the lymph and blood-vessels of the skin and subcutaneous connective tissue.

##### MYCOSIS FONGOIDE.<sup>3</sup>

At the meeting of German naturalists and physicians held in Berlin during September, 1886, both Geber and Köbner presented communications upon this disease. The former mentioned two examples of the malady which had come under his observation, since the appearance of his first publication on the subject in 1878.<sup>4</sup> One of these cases occurred in a man of sixty years of age, the clinical appearances being those of chronic eczema, attended with very great and universal pruritus. Several of the eczematous patches became somewhat elevated above the level of the surrounding skin, and, deprived of epidermis, presented a mammillated appearance. There were not developed any of the tumors peculiar to mycosis fungoide, and no mention is made of any enlargement of the lymphatic glands. The diagnosis was a purely clinical one, the patient being unwilling to have any portion of the cutaneous lesions excised for purposes of microscopical examination.

The fact of spontaneous recovery, which occurred in this instance after the disease had lasted eighteen months, is a remarkable one; for, of all the cases reported since Alibert's first description of the malady, in 1835, some forty in number, in only two other instances have the patients been known to recover: one mentioned, by Bazin, as having been restored to health after an attack of migrating erysipelas; and the other, reported by Köbner, as recovering after treatment with arsenic. The second case occurred in a woman, sixty-three years of age, and the disease had already existed for fifteen years, when she was first seen by Geber, at which time the clinical appearances were those of a combination of psoriasis and chronic eczema. The patient remained in the hospital for seven months, and was then discharged in a miserable condition, having received no benefit from any kind of treatment. Several of the cutaneous nodules were excised, and histological examination showed, in the papillary layer of the skin, the reticulated structure, containing round cells, and characteristic of mycosis fungoide. Inoculation of animals and men with blood and scales from the cutaneous lesions produced no effect. Inoculation of gelatine with the viscid secretion from these lesions resulted in the formation of colonies of what proved to be merely staphylococcus aureus. Sections of pathological tissue, stained by Gram's method, and examined with oil immersion and Abbe's illumination, showed the presence not only in the bloodvessels, but also outside of them, between the connective tissue fibres, of micrococci, diplococci, and streptococci. It could not be made out, however, that these microorganisms caused any thrombosis of the bloodvessels, as has been stated to be the case by Rindfleisch. Geber considers the presence of these microorganisms, which varied very much in size and distribution, as merely accidental and having no special connection with the disease.

<sup>1</sup> Beiträge zur pathol. Anat. und Physiol., von E. Ziegler und C. Nauwerck, 1. Jena, 1886.

<sup>2</sup> Vide Dermatological Report in this Journal of October 5, 1882.

<sup>3</sup> Vierteljahrsschrift für Derm. und Syph., Heft 1, p. 187, 1887.

<sup>4</sup> Deutsches Archiv. für Klin. Med., Band xxi., Heft 3 und 3, 1878.

Köbner recognizes two varieties of mycosis fungoides, one presenting more isolated and pedunculated tumors than the other, which is characterized by a wider dissemination of the cutaneous lesions. He mentioned the fact that, in one of the cases which had come to his notice, recovery had taken place after the administration of arsenic. He was of the opinion that the assumption of the sarcomatous nature of the disease was not warranted by the microscopical structure of its lesions, nor by its clinical course. Neither does Köbner accept the views of the French dermatologists, who regard mycosis fungoides as possibly a variety of pseudo-leukemia, characterized by the development of cytogenous tissue in the skin. Sections of the cutaneous lesions, stained by Gram's and Lutzgarten's methods, gave no indication of the presence of any kind of microorganism. Inoculation of gelatine with fluids from the pathological tissues only gave rise to the development of cultures of staphylococcus aureus and albus. Köbner is of the opinion that the microorganisms discovered by Auspitz's assistants, Hochsinger and Schiff, in connection with mycosis fungoides, and supposed by them to be pathogenetic, are simply accidental, since they were found outside of the blood-vessels, and in sections taken from cutaneous lesions already deprived of epidermis, and thus presenting conditions favorable to the growth of ordinary and ubiquitous microorganisms. The streptococci, described by Rindfleisch and Hammer as existing only within the lymph and bloodvessels, he considers to be of post-mortem development, and similar to the micrococci found in the bloodvessels after death from septicæmia, which was the immediate cause of death in the patient who furnished material for the investigations of Rindfleisch and Hammer. Upon clinical grounds, however, the disease is to be regarded as one of the chronic infectious maladies, although the contagium or virus has not yet been demonstrated.

In the discussion which followed, Neisser stated that in three instances of granuloma fungoides, he had been able to constitute the presence in the cutaneous lesions of cocci, which, however, were found only in those portions of pathological tissue deprived of epidermis, and therefore their presence was to be regarded as fortuitous. Lewin also had been unable to detect the existence of any microorganisms in those lesions of mycosis fungoides which still retained their epidermal covering.

Dr. J. F. Payne<sup>2</sup> describes a case of mycosis fungoides occurring in a man fifty-seven years of age, the disease having existed about four years at the time of death. The clinical appearances and course of the disease were typical, and just before death there were "upon the body about fifty-seven tumors large and small, varying in size from half an inch to two or three inches in diameter. About one-half of these showed no distinct softening or ulceration, but eighteen were wholly or partially excoriated, exuding a moist discharge and ulcerating, while eleven were converted into distinct flat ulcers." The autopsy revealed no changes in any of the viscera, the disease being confined to the skin and subcutaneous tissues, and it is worthy of notice that the lymphatic glands were not affected. During the life of the patient attempts were repeatedly made to cultivate microorganisms by inoculation of sterilized gelatine with fluids and epidermal

scales taken from the pathological tissues, but without success. Microscopical examination showed the structure of the cutaneous lesions to be essentially that of a granulation tumor, and it was found impossible by brushing sections of these tumors, to demonstrate the existence of a reticulated connective tissue stroma, such as was first described by Ranvier. Repeated microscopical examination by several independent and competent observers, also failed to show the presence of any form of microorganism in these tumors. The author refers to the conclusions of Köbner with regard to mycosis fungoides as agreeing entirely with his own. These conclusions<sup>3</sup> are:

- (1) There are no microorganisms to be found in the tissues or blood, in this disease.
- (2) The supposed cocci of Hochsinger are granules of "Mastzellen."
- (3) The micrococci described by Rindfleisch are those found in septicæmia.
- (4) The micrococci cultivated by Hochsinger and Schiff, was probably nothing but staphylococcus aureus.

#### ERYTHEMA NODOSUM AND RHEUMATISM.

In a paper<sup>4</sup> presented to the Clinical Society of London, Dr. Stephen Mackenzie considers the relation of erythema nodosum to rheumatism, in connection with the analysis of one hundred and eight cases of the former disease collected from the records of the various London hospitals. Of these examples of erythema nodosum, eighteen occurred in males and ninety in females, and the period of life most obnoxious to the development of the disease was between the tenth and thirtieth years.

In thirteen out of these one hundred and eight cases or in twelve per cent. acute rheumatism coexisted with erythema nodosum, and in four instances subacute rheumatism was present, making seventeen cases in all, or fifteen and seven-tenths per cent. in which rheumatism and erythema nodosum coexisted. In addition to these there were also seventeen cases in which arthritic pains, apparently of a rheumatic character and not merely due to the cutaneous lesions, were present, making thirty-four cases altogether, or thirty-one and four-tenths per cent. in which rheumatism was found to be associated with erythema nodosum. With regard to the development or existence of endocarditis during the course of erythema nodosum, after quoting Dr. Barlow<sup>5</sup> to the effect that he himself had never been able to assure himself of the production of an organic cardiac murmur in erythema nodosum nor of any intercurrent arthritis, and that he did not consider the affection as closely allied to rheumatism, the writer mentions that of the one hundred and eight cases subjected to analysis, in four there was evidence of endocarditis in the shape of an organic murmur developed during the course of the attack, and twenty cases in which such a murmur was found to exist at the time of admission to the hospital. Dr. Mackenzie considers the above facts to warrant the following conclusions:

- (1) That erythema nodosum is frequently associated with definitely rheumatic symptoms.
- (2) That heart disease (endocarditis) may arise during an attack of erythema nodosum both in cases in which arthritis is present and in cases where there is no affection of the joints.

<sup>2</sup> Transactions of the Pathological Society of London, Vol. xxxvii, 1886, p. 522.

<sup>3</sup> Fortschritte der Medizin, September 1, 1886.

<sup>4</sup> Clinical Society's Transactions, Vol. xix, 1886, p. 215.

<sup>5</sup> British Medical Journal, Vol. II, 1882, p. 311.

(3) That these conclusions justify the inference that erythema nodosum is frequently, if not generally, an expression of rheumatism, even when no other definitely rheumatic symptoms are present.

#### UNIVERSAL ALOPECIA.

Dr. Tyson<sup>9</sup> reported to the London Clinical Society, three instances of universal alopecia. The patients were all strong and healthy males, unaffected with syphilis, and forty, forty-four and twenty-one years of age respectively. In one case the affection followed long-continued anxiety about money matters, and total and universal baldness occurred in ten days. The cause to which the second patient attributed his misfortune, was sudden fright occasioned by his being awakened from profound sleep by an unusually loud clap of thunder. His hair began to fall out shortly afterward and in two weeks he was entirely bald. He also lost the nails of the thumbs and great toes. The third patient was thrown from his horse, one month before his hair began to come out. He was struck violently on the head and since that time his memory became defective and he was at times exceedingly drowsy. In this instance, baldness was complete and universal in one month. These cases were presented to support the assumption of a neurotic origin of the universal form of alopecia areata, and also to demonstrate the fact that clinically speaking there are two forms of the disease. There seems to be little doubt but that mental trouble or physical injury may be sufficient to cause universal alopecia in a very short space of time. Dr. Dyce Duckworth has recorded an instance of universal alopecia due to an injury,<sup>10</sup> and Mr. Todd a case occurring after cerebral injury.<sup>11</sup> An example of rapid and universal alopecia mentioned in the second volume of "Holmes' System of Surgery," page 31, is interesting in this connection. A frigate was struck by lightning and the captain received at the time several wounds upon the head. The next day, while shaving, he found that the hairs instead of being cut by the razor, were torn out by the roots, and subsequently all the hair on the head and body was lost, while during the subsequent year, the nails of the fingers came away, but not those of the toes. This condition of things was permanent. The characteristics of this class of cases is as follows. The affection begins on the scalp, not necessarily in spots, and spreads rapidly until universal baldness is complete. It occurs in adults but not always in young adults as has been supposed. The prognosis is unfavorable, the more so the older the patient, and treatment has no effect whatever. The starting point of the malady can often be traced to a neurotic cause. These cases are entirely different from the ordinary type of alopecia areata which beginning in youth as scattered bald patches upon the scalp remains confined to this region, while the prognosis is comparatively good.

#### ALOPECIA AREATA.

Joseph<sup>12</sup> reported to the Association of German naturalists and physicians at their last meeting the results of some experiments which go to show the trophoneurotic origin of alopecia areata. Cats, in which the spinal ganglion of the second cervical nerve, together with a portion of the posterior and anterior

nerve roots, had been excised were affected in periods of time varying from five to twenty-seven days after the operation, with localized loss of hair. There appeared one or more spots of circumscribed baldness, situated in the cutaneous regions supplied by the occipitalis major and minor nerves, and by the auricularis magnus. The skin in the affected regions was of normal appearance, presenting no noticeable redness or paleness, and the loss of hair occurred in round, oval or oblong circumscribed areas of skin. These bald spots, which in the beginning were about the size of a ten-cent piece, increased gradually in size, eventually reaching that of a twenty-five-cent piece. Neither gross disturbances of sensation, itching nor any parasitic affection were to be detected in connection with these bald spots. Microscopic examination of the skin of the affected areas showed simply atrophy of the hair papillae, combined with complete lack of hair. The erector pili muscles and the sebaceous glands were found to be unchanged. The writer also brought forward as clinical facts which support the assumption that alopecia areata is of trophoneurotic origin, the discovery of Nachtigal that there may exist in the bald patches due to this disease a greater delicacy and acuteness of sensation than in other regions of the skin and the fact that in one instance mentioned by Michelson, there had been noticed by the patient for about three months before his hair began to come out a pricking, "going to sleep" sensation in the regions of the scalp, in which baldness ensued. An observation of E. Wagner is of interest in this connection. A patient who was affected with alopecia areata fell ill with the measles, and the eruption due to the latter disease did not make its appearance upon the areas of baldness. Analogous to this are those cases of hemiplegia in which the eruption caused by any intercurrent acute infectious disease, such as scarlatina or measles, does not appear upon the paralyzed side of the body. In the discussion of the subject which followed, it was the general opinion that alopecia areata is of trophoneurotic origin simply, and that instances of so-called inflammatory alopecia areata, attended with more or less redness, and desquamation or with desquamation alone, are in reality patches of tinea capitis. As to the micro-organisms discovered by some observers in connection with alopecia areata, and supposed by them to be pathogenetic, there is reason to believe that they are nothing more than ordinary cocci, to be found on healthy as well as diseased hairs. In support of this view, agar cultures of hairs, taken from healthy scalps, from the periphery of bald patches due to alopecia areata and also from the patches themselves, together with nodulated hairs from the axillae, were shown by Behrend. In all of those cultures made with different kinds of hairs, there were found the same varieties of micrococci.

#### METHOD OF EXAMINING EPIDERMIS IN ORDER TO DETERMINE THE PRESENCE OF FUNGI OR OTHER MICROORGANISMS.

The method employed by Bizzozero whose name is well known in connection with such examinations, is as follows: (1) The epidermal scales are first soaked in ether for twenty-four hours, in order to remove the fat. (2) A few drops of a fifty per cent. solution of acetic acid are then added to the epidermal scales on a cover or object glass, and the larger masses of epider-

<sup>9</sup> Trans. London Clinical Soc., vol. xix, 1886, p. 120.

<sup>10</sup> St. Bartholomew's Reports, 1872.

<sup>11</sup> Lancet, vol. ii, 1869, p. 92.

<sup>12</sup> Vierteljahrsschrift für Derm und Syph., 1 Heft, 1887, p. 197.

mis are broken up with needles. (3) The acid should then be allowed to evaporate spontaneously or with the aid of a moderate application of warmth. The specimen is now ready for staining. For this purpose the following preparation may be used:

Concentrated alcoholic solution of methylene blue . . .	30 parts.
One per cent. solution of potassium hydrate . . .	1 part.
Distilled water . . . . .	100 parts.

A still better method of staining is Gram's differential method, as follows:

A few drops of gentian or methyl-violet solution in aniline water is added to the specimen, on a slide or

cover-glass, and allowed to act for from five to thirty minutes. The specimen is then washed with absolute alcohol, after which Gram's iodine solution is added to the specimen, or else the cover-glass upon which the specimen is placed, may be floated in the iodine solution for from one to five minutes. The preparation is then again washed in alcohol and dried, being now ready for examination, the fungi or micro-organisms which may be present being the only portions in which the coloring matter is retained. This method is given by Dr. Payne in the "Transactions of the Pathological Society of London for 1886," in connection with an article upon erythrasma.



FIG. 1.

### Clinical Memorandum.

#### ON EXAMINATION OF THE THROAT, WITH ESPECIAL REFERENCE TO THE MANNER OF USING THE TONGUE-DEPRESSOR.

BY JOHN W. FARLOW, M.D.

ANY one who has instructed students in examinations of the throat, must have noticed the great difficulty that is often experienced in depressing the tongue so as to get a satisfactory view of the pharynx, and, more particularly, how great an undertaking it is to hold the unruly member under control long enough to admit of the use of the rhinoscopic mirror. Whoever has had his own throat looked at, must have noticed how much easier it is to breathe quietly, and allow a thorough inspection of the throat, when the one holding down the tongue understands how to do it, than when some well-intentioned, but uninstructed, member of the family makes a number of desperate, but ineffectual attempts, which result only in gagging.

I do not propose to say anything about the use (only too common) of the spoon, lead-pencil, paper-cutter, or other domestic article, other than that the sooner they are given up, and a proper tongue-depressor sub-



FIG. 2.

stituted, the more satisfactory to both patient and physician will be the examination.

Let us suppose the patient to be seated in a comfortable position, before a good light. A few preliminary directions to him will be of great service. As soon as he is seated, he usually opens his mouth as widely as possible, contracts his throat, and thrusts out his tongue to its utmost extent, which, together with his grimaces, make him thoroughly ill at ease before a word has been said. He should be told, at the outset, not to open his mouth too widely, as a more moderate opening is much better. He should be particularly requested not to contract his throat or distort his face. In other words, he should open his mouth gently, a little wider than if he were to say "ah!" in his natural voice. The tongue should not be forcibly extended, but should rest against the inner side of the lower front teeth. Be sure that he does not hold his breath, as this only tires him.

It would seem as if it were easy to say "ah!" correctly, but here is another stumbling-block. It is usually formed in a contracted throat, and exploded as if it were the offending, foreign body which had caused the patient's grimaces when first opening his mouth. A good way is to tell him to say "ah!" after you sev-

eral times quietly. Not until you are satisfied that these preliminaries (seemingly trivial, but, in reality, of great importance) are well carried out, should you use the tongue-depressor.

What are some of the essential features of a good tongue-depressor? It should be simple in construction, so as to be easily cleaned, and not liable to get out of order or break. It should be firm, so that a strong tongue can be held down. Here is a source of weakness of the folding depressors. When the patient throws his head back, the tongue-holder tends to fold up, unless the outer blade is pulled forward. It should not be too large; otherwise, it would project too far back on the tongue, or take up too much room in the mouth. Many tongues are so large, that they need all the room they can get. Some lower jaws are so narrow as to admit only a rather small instrument between the teeth. It should not be too heavy, for it would tire the tongue. It is better to let the hand use what force is necessary, as it can do it intelligently and accurately. In order to hold the tongue better, and to make the instrument lighter, it is often fenestrated. This fenestra is sometimes so large, that the portion of the tongue which projects upward through it is of such size as to interfere seriously with the view of the pharynx. This is a fatal defect of the open-wire depressor. Another important point is that the blade should look clean, for which reason nickel-plated ones are better than hard rubber or iron. The handle should be one that can be firmly held, and, to my mind, indented wood or hard rubber is better than metal.

The instrument figured here (Figure 1) is no new pattern, but I introduce it as illustrative of some of the points of which I have been speaking. I have found it to serve a very good purpose, and, although this is the smaller size, I use it for both children and adults. It is nine inches long, and weighs not quite one-and-a-half ounces. The part that goes into the mouth is three inches long and one inch wide at its widest part. The greatest width of the fenestra is one-half inch.

The tongue-depressor should be taken firmly between the thumb and fore-finger (Figure 2). The patient should quietly say "ah!" and, during expiration, the instrument should be put into the mouth, till its end is a little farther back than where the tongue begins to curve backward and downward. Be careful not to put it too far back, but, at the same time, it should be far enough back, so that the base of the tongue can be drawn well forward. The middle finger, placed under the patient's chin, steadies the hand, and also holds the patient's head under control. The tongue is now depressed, and then its base drawn forward by lifting and pulling forward the handle of the instrument by the third and little fingers, the thumb and forefinger acting as a sort of fulcrum.

The head, tongue, and tongue-depressor are thus easily controlled by one hand, and the patient, feeling that he is firmly held, no longer tries to free his tongue and move back his head, and, consequently, is quieter, and gags much less than when he is held in the usual loose fashion.

In Figure 2, the left hand holds the instrument. It is better to use the left hand, so that the right may be free to use the rhinoscopic mirror, probe, or whatever is necessary to complete the examination or treatment.

— Dr. Olshausen of Halle, succeeds to the chair of Prof. Schroeder at the University of Berlin.

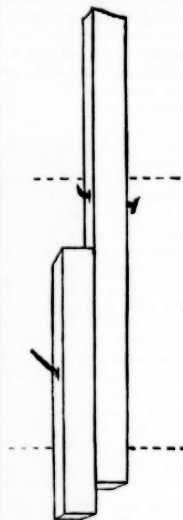
## Hospital Practice.

BOSTON CITY HOSPITAL.

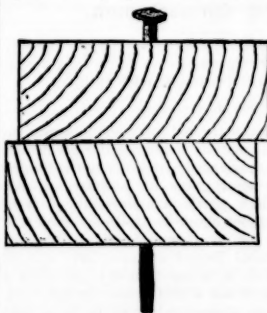
### A CASE OF SEVERE PERFORATING WOUND OF THE THIGH, WITH OTHER INJURIES. RECOVERY.

SERVICE OF G. W. GAY, M.D.

REPORTED BY OLIVER H. HOWE, M.D., FORMERLY HOUSE-SURGEON.



as he fell. The slats entered behind and a little below the great trochanter of the right thigh and passed through the thigh, behind the femur, to a point at the inner side, just below the scrotum, where the square ends projected about an inch and a half.



quarters of an hour and was finally released by a policeman.

He was brought to the hospital with the slats (in all, about eleven inches long) in his thigh. The slats were one and seven-eighths inches wide and three-fourths of an inch thick.

Ether was given, and Dr. Bolles, who happened to

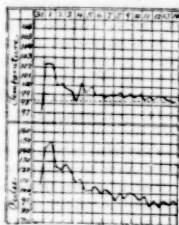
On the morning of January 31, 1886, J. F., a boy sixteen years of age, employed as a telegraphic line-man, was walking upon the roofs of buildings in the city. The roofs were covered with a light coating of snow, which had freshly fallen. Owing to this fact, he stepped upon a skylight, which gave way under him, allowing him to fall through a ventilating shaft, a distance of four stories (forty-two feet, by measurement), to the ground floor below. At the bottom of the shaft (on a level with the ground floor) were piled up a number of old bedsteads and projecting vertically from this pile was a bed-slat with a shorter piece of the same roughly nailed to it, two nails projecting at nearly right angles. Upon the square ends of these slats, the boy's thigh was impaled

The boy hung, impaled in this way, partly supporting himself by standing on his left leg, until his cries brought assistance to the spot and he was released by the slat being sawed off below. As the place where he fell was difficult of access, he is said to have hung there from half to three-

be nearest at hand, removed the slats from the thigh, after having pulled out one of the nails.

On the inside of the thigh was a ragged wound about three inches long. On the outside (at the point of entrance) was a V-shaped wound, each arm of which was about three inches long. The muscles were badly lacerated and the sheath of the great sciatic nerve was laid bare for a distance of about three inches.

Dr. Gay, to whom the case had been assigned, now being present, cleansed the wound, inserted two drainage tubes (one passing through the thigh) and closed both wounds with wire and shirt-button sutures and accessory silk sutures. The whole was done antiseptically and a dressing of iodoform gauze applied.



The boy was found to have a comminuted fracture of the lower third of the right scapula; also two scalp wounds, each an inch long, neither exposing the bone. After recovery from ether, the boy was not much collapsed and had very little pain. The next day he was delirious, with temperature of 102.4 and pulse of 150. The temperature just mentioned was the highest ever reached during his stay in the hospital.

The second day after entrance, there was considerable diffused redness about the wounds and the flaps were very tense, triangular flap on outer side beginning to slough. No chill. Antiseptic dressing is changed temporarily for a poultice. Two wire sutures removed. That night he got out of bed in delirium. A little pus about wounds.

6th day. Resume antiseptic dressing again, as the cellulitis has subsided. Very restless at night and tries to get out of bed. All sutures have been removed from thigh.

8th day. Delirium has ceased. Scalp wounds have healed by first intention.

13th day. Slough proves to be superficial only and has wholly separated. Granulations healthy throughout; only slight amount of pus. Outer wound, which has been gaping badly, is now held together by a strip of adhesive plaster. Tubes removed. General condition very good.

21st day. Has had very little pain from scapula, and it can now be moved without pain. Union appears to be firm.

35th day. Cavity has been steadily filling up with healthy granulations.

53d day. Wound on inside of thigh entirely healed; that on outside now superficial. Dressing changed to soda wash.

59th day. Sitting up for first time.

65th day. Walks without limping.

69th day. Wound only the size of a silver three-cent piece. Leaves hospital with dressing of simple cerate.

Since discharge he has reported several times. The wound was soon entirely healed. With exception of slight stiffness of the injured thigh, he has had no inconvenience remaining from any of his injuries and has resumed his former occupation of telegraphic lineman.

## Reports of Societies.

### PROCEEDINGS OF THE NORFOLK DISTRICT MEDICAL SOCIETY.

S. ALLEN POTTER, M.D., SECRETARY.

MEETING March 30, 1886. DR. JOSEPH H. STREETER in the chair.

DR. C. E. STEDMAN read a paper upon,

#### A CASE OF GANGRENE OF THE LUNG.<sup>1</sup>

The discussion was opened by DR. J. H. STREETER, who described two cases of gangrene of the lung which had come under his own observation.

The first occurred in the practice of the late Dr. Henry A. Martin.

The patient was a man of between sixty-five and sixty-eight years of age. His illness lasted from five to six months, and was marked by periods of alternate improvement and decline. There were hemorrhages from the lungs, at first slight, later severe. There was noticeable absence of prostration, a fact to be especially remarked, for in gangrene of the lung great prostration is the rule. The man finally died.

The second case occurred in Dr. Streeter's own practice. It was that of a merchant, who presented at first the trifling symptoms ordinarily referred to as "a cold." One morning, however, on attempting to rise from bed, he felt faint, and had a slight chill. This passed, and the only notable symptoms remaining was an unaccountable prostration. On the afternoon of this same day, a transitory pain was felt under the right scapula, but no physical signs were discoverable. The prostration, however, continued, and in three or four days the breath became very fetid. On the tenth day, during a severe attack of coughing, a plug of fetid material, about two inches long and as large round as a lead pencil, was expectorated, and from that moment the patient began to improve.

The long continuance of the extreme prostration, and fetid breath, led the speaker to think that the disease had not been confined to a bronchus, but that the mass had originated in the parenchyma of the lung and been lodged in a bronchus some time previous to expulsion.

DR. H. W. BROUGHTON described a case of circumscribed gangrene of the lung, which had been treated by himself, and reported in the *Boston Medical and Surgical Journal* of February 21, 1884. The patient showed at first the symptoms of ordinary pneumonia, except that in place of the usual single chill, there were several. When resolution was expected, there occurred fetor of the breath, a sputum nearly black, and profound prostration. Empyema soon followed upon the same side as the pneumonia. A permanent opening was made and fetid pus removed. The patient recovered.

The reader, in closing the discussion, called attention to the fact that in his case the severity of the symptoms was by no means commensurate with the gravity of the disease. Prostration was not great, fetor not very marked, cough and expectoration scant, temperature not high, and the pulse, upon which one relies most in acute diseases, not rapid.

— The State of Ohio claims to have sixteen institutions licensed to confer the degree of M.D.

<sup>1</sup> See page 441 of the Journal.

## THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, April 7, 1887.

DR. A. P. GERSTER read a paper on

## THE PROPER SELECTION OF ETHER OR CHLOROFORM AS AN ANÆSTHETIC.

In approaching this subject, he said it was necessary to cast away all prejudice, considering it in a spirit of candid inquiry. In the first place, it was to be borne in mind that both ether and chloroform were dangerous anæsthetics. Researches with the aid of the sphygmograph, demonstrating the effect upon the pulse, had shown, however, that chloroform was infinitely the more powerful agent of the two. Still, this fact did not afford ground for the universal condemnation of chloroform, though it rendered greater caution necessary during any operation in which it was used. But, while chloroform was the more powerful agent, and, consequently, attended with more danger at the time of the operation, its employment was not followed by the secondary affections of the lungs and kidneys which were apt to result from that of ether.

The statement frequently made by partisan zealots, that ether is always, and under all circumstances, safe, was not true. In hospital practice, it was found that in a considerable number of patients, particularly those addicted to the use of alcohol, it was exceedingly difficult to produce profound anæsthesia with this agent, and in such cases, from the effect of the excessive and irritating mucous secretions excited, catarrhal or septic pneumonia was very apt to ensue. Admitting that, on the whole, ether was safer than chloroform, Dr. Gerster proceeded to speak of the manner of administration, and recommended, as superior to any other, that by means of Ormsby's inhaler. He then went on to say that ether was contra-indicated in all affections impairing the renal function, a circumstance the credit for first pointing out which belonged to Dr. Emmet. Having referred to cases showing the danger of ether when nephritis was present, he expressed the opinion that an examination of the urine should be made in every case before administering an anæsthetic, except where the urgency of the circumstances precluded this; when, if Bright's disease was discovered, chloroform was to be preferred as the safer agent.

Ether, he said, was also contra-indicated where, in the aged or in young children, or generally in the feeble, there were catarrhal conditions of the air-passages. Having related three cases in his own practice, in which he claimed that fatal or dangerous pneumonia was set up by ether in patients suffering from cancer, he stated that, in the year 1886, three cases of pneumonia occurred after the administration of this agent in the Mount Sinai Hospital, in two of which the patients died, while in the third recovery took place. There were also five cases of severe bronchitis, arising under similar circumstances, reported during the year. Dr. Gerster said he had four more cases in his notes, but, as these operations were performed either upon the trachea, larynx, or lower jaw, it was possible that the entrance of blood into the air-passages might, perhaps, have caused the trouble, and he would not, therefore, insist on these. As anæsthesia by ether was dangerous in young children suffering from affections of the air-passages, chloroform was always to be preferred under these circumstances, although, in healthy children, ether was borne well.

The third class of patients in which chloroform was to be preferred was those who could not be satisfactorily brought under the influence of ether. In the incomplete anæsthesia caused by it, there was an amount of muscular rigidity remaining, which constituted an insuperable difficulty in quite a large class of cases. Not only loss of sensation, but total relaxation of all the voluntary muscles, was indispensable in many operations; and, in spite of proper preliminary precautions, and the greatest amount of care in the administration of the anæsthetic, in 11 cases out of 125, at the Mount Sinai Hospital, it was found impossible to produce, with ether, the complete anæsthesia required. In all these instances, however, a change to chloroform was attended with the happiest results. Recapitulating, he said, then, that ether should not be used as an anæsthetic in any case (1) where acute or chronic nephritis is present, or is suspected to exist. (2) Where there is any chronic pulmonary affection, especially in the aged or feeble. (3) Where ether will not produce the complete anæsthesia and relaxation indispensable for the successful performance of the operation in question.

Dr. Gerster then went on to say that while, in general, the administration of chloroform undoubtedly required greater caution than that of ether, there was only one contra-indication against chloroform, namely, the presence of a fatty or weak heart. In the hands of a careless giver of anæsthetics, chloroform was, no doubt, more dangerous than ether, but Bright's disease offered no contra-indication to chloroform. In eight years' hospital experience, he had met with but two cases in which pneumonia followed the administration of chloroform, and in both of these the probable cause of the pulmonary trouble was the entrance of blood into the bronchi. The existence of valvular disease of the heart, again, was not a contra-indication to chloroform, provided there was satisfactory compensation by muscular hypertrophy. On the other hand, if the heart were feeble from any cause, chloroform should never be used. In anæmia, also, ether was, as a rule, safer.

He next spoke of the special danger of chloroform in cases of marked nervous depression, and said it should never be used when the patient was in a state of fright. It was a fact that most of the deaths from its use were in cases of slight operations, and he thought this was explained by the dread of the operation or the anæsthetic. In severe operations, the patient generally nerved himself for the ordeal, and hence there was less danger from this source.

On February 10, 1886, Thomas R., aged thirty-two years, consulted Dr. Gerster, at his office, for a tumor on the lower part of the face. When an exploratory incision was proposed, he became so much alarmed that he begged for chloroform, which was not given at this time. Five days later, he was admitted at Mount Sinai Hospital as a private patient, and on the 17th, Dr. Gerster proceeded to operate on the tumor, which proved to be a glandular abscess. He subsequently learned that the patient expressed the conviction that he would never leave the operating room alive. When two drachms of chloroform had been administered, by means of Esmarch's mask, opisthotonos suddenly occurred, the pupils became dilated, and the abdominal muscles were found to be rigid. The pulse ceased, and within a minute the patient was dead, all efforts at resuscitation proving futile. The experience gained

in this case, he said, had led him to administer stimulants and a small dose of morphia prior to operating in all cases where the patient was not in perfectly good condition, and he would now never give chloroform to any one who was the subject of deadly fear. In every instance in which it was feasible, a careful physical examination should be made, and the probable prognosis duly announced to the patient or his friends before proceeding to employ this anæsthetic.

## DISCUSSION.

DR. A. JACOBI, the President, read a letter from Dr. H. Knapp, who was unable to be present, in which he briefly related his personal experience with the two anæsthetics. From 1860 and 1874 he used chloroform in over three thousand cases. While he had had no fatal result, in many instances the effects were very unpleasant, and he had met with a considerable number of critical cases. During this period about once a month he was obliged to resort to artificial respiration and other measures for the resuscitation of his patients. Since the year 1874 he had used ether exclusively, and since then he had found no ground for complaint, and no contra-indication for the administration of this agent. It was his practice to employ what is known as the "choking plan" in giving it; though at the beginning of the anæsthetization the patient was allowed to have enough air to prevent the sensation of strangulation often complained of by those taking ether. He had found that many operations performed by the ophthalmic surgeon could be completed during preliminary anæsthesia, that is, before profound narcosis was induced. In several hundred of his cases the average duration of the maintenance of the anæsthetic was one minute and thirty-seven seconds. He had met with no fatal cases, and only a very few in which there was any trouble whatever on account of the anæsthetic. The secondary effects, moreover, he had not found any more unpleasant than those of chloroform. On the whole, therefore, he regarded ether as an invaluable anæsthetic, and he looked upon it with special favor from the fact that, now that he habitually employed it his mind was quite free from that feeling of anxiety as to the effect of the anæsthetic which in the case of chloroform he could never overcome.

DR. ROBERT F. WEIR said that there seemed to be a growing feeling in the minds of the profession that ether is not as safe an anæsthetic as we have for many years been supposing. The points presented by Dr. Gerster were certainly worthy of consideration, but he thought he had stated the case too strongly against ether. While, in some instances, kidney trouble might be aggravated by the administration of this agent, he had seen too many cases of this kind, in which it had been given with safety, to make him willing to acknowledge that the presence of nephritis was always a contra-indication to the use of ether. He did think, however, that in such cases it should be given with special caution.

Dr. Gerster was perfectly correct in his statement that there were a certain proportion of cases in which it was practically impossible to produce perfect anæsthesia with ether. He could not, however, recall a single case in which the patient took ether badly, as it was generally expressed, when the operation had to be postponed on this account. By summoning aid to assist in holding the patient, he had always been able to

get along, also, without resorting to chloroform. As to the production of pneumonia, while it was possible that this might sometimes be due to the local effect of the cold ether vapor, he was inclined to think that, in many instances, it was directly attributable to the exposure of the patient's person in carrying out the antiseptic measures now so generally in vogue. Some time ago, he had called the attention of the house-staff of the New York Hospital to the matter, directing warm and dry towels to be placed next the body, except just at the seat of operation; and, since this precaution had been taken, he had met with less trouble of the kind in question.

Personally, he did not think the bad consequences arising from the use of ether were as frequent as had been represented in the paper; but, after all, Dr. Gerster had admitted very frankly that chloroform was much more dangerous than ether at the time of administration. The question then arose: Is the danger which follows the use of ether greater or less than the danger which attends that of chloroform during the operation? Dr. Weir answered this by saying that, for himself, he would prefer to take ether rather than chloroform, if an anæsthetic were necessary, even if he were the subject of kidney trouble. The deaths from chloroform, from 1873 to 1879, collected by the *Lancet*, amounted to 92; while those from ether, from 1873 to 1880, as collected by Dr. Roberts, of Philadelphia, amounted to only 18. This showing, he thought, corroborated the position which he took.

In the New York Hospital, ether and chloroform had been used since 1847. Shortly after this date, however, a number of mishaps occurred in connection with chloroform, and, since 1850, ether alone had been employed. From 1847 to 1870, when the old hospital on Broadway was closed, some 7,700 operations were performed under ether, and in only three of these was a fatal result attributed to the anæsthetic. From 1876, when the new hospital buildings were opened, to 1886, 2,289 operations were performed under ether, with one death from the anæsthetic. In the House of Relief, from 1876 to 1886, 802 operations were performed under ether, with one death from the anæsthetic; and it would thus be seen that, at the New York Hospital, there had been only five cases of death from ether in nearly eleven thousand operations. Until an anæsthetic free from all objections was discovered, he thought, therefore, we could go on with the use of sulphuric ether with a considerable amount of confidence and satisfaction.

DR. LEWIS A. SAYRE stated that he was well aware that the views which he entertained on this subject were widely different from those held by the great majority of the profession in New York; but, in spite of opposition, he had for many years continued to hold them with ever-increasing confidence. He preferred chloroform, because it was agreeable to take, speedy in action, excited no spasmodic rigidity, and was not followed by the bad effects which were sometimes noted in the case of ether. It was the usual practice to allow the patient to have plenty of fresh air with the chloroform, thus permitting its antidote to act directly against the anæsthetic. In consequence, a much larger quantity of chloroform was taken into the system than was required if the proper manner of administering it were employed. The method of pouring an unmeasured quantity of an anæsthetic into a cone or inhaler, and then, every few minutes, adding an ounce

or two more, he thought was entirely wrong. We did not, he said, use strychnia, arsenic, morphia, or other potent agents in this careless way. Chloroform and ether were both powerful drugs, and he thought, therefore, that they should be used with the same caution as any other potent agent.

Dr. Sayre then exhibited the inhaler, or modification of Lente's, which he had used exclusively for many years. By means of a rubber attachment, it could be made to fit any face in a perfectly air-tight manner, so that the patient was not allowed to breathe any air, except that which was permeated with the anæsthetic. Ten, twenty, or thirty drops of chloroform, poured in upon the sponge with which the cup was provided, would almost invariably produce anæsthesia; and if, from any cause, the heart should show signs of weakness, a few expirations caused by artificial respiration would be sufficient to get rid of the entire amount of chloroform, and thus save the patient. When chloroform was freely mixed with air, anæsthesia was not produced for a long time, and great injury was liable to result from the violent muscular exertion made by the patient, especially when there was a joint-disease present. In addition, if, in any case in which chloroform was given in this way, trouble should arise from the anæsthetic, a fatal result would probably ensue, on account of the large quantity of the drug which it had been necessary to administer before anæsthesia was produced.

Dr. W. G. WYLIE said that, as a rule, he preferred ether, but thought there were many cases in which it was advisable to use chloroform. There could be no doubt that ether was often given altogether too carelessly, and this was probably due to the prevalent impression that there was little danger to be apprehended from this agent. Some years ago, he had heard a new interne at Bellevue Hospital, who had just nearly lost a patient while taking ether, remark that he "didn't know that a person could be killed from ether." Like most other members of the profession in New York, Dr. Wylie said that he had used ether almost exclusively in surgical cases, though he had always employed chloroform in his obstetrical practice, and, until two months ago, had never met with any trouble from ether. At that time he operated on a patient with a large abdominal tumor, using ether as the anæsthetic. The urine had been previously examined, and found to contain no albumen; but not long after the operation the patient died of Bright's disease, an attack of acute nephritis having supervened upon chronic interstitial nephritis. In this instance, he thought that the administration of chloroform would not have been followed by the disastrous results which were caused by the ether.

Since then he had been called upon very suddenly to operate in a case of strangulated umbilical hernia. The patient was very stout, and became cyanotic while taking ether. She nearly died on the table, but rallying to some extent, died about an hour afterward, apparently from suffocation. If another case of this kind presented itself he thought he would try cocaine, as he had come to the conclusion that ether was very dangerous in very fat women. The lung capacity was so small that any extra strain upon the lungs would be apt to prove fatal, for the presence of even a very little fluid in the trachea might be attended with serious danger.

There was another point which he thought was of

some value. He had found that patients who had taken ether more than once were apt to acquire a certain tolerance of the drug; so that it was often very difficult to get them under its influence. He had had an opportunity of observing this a number of times at the Woman's Hospital, where patients with troubles like vesico-vaginal fistula had to undergo several successive operations. He had to confess that three or four years ago he was more or less prejudiced in favor of ether in almost all cases, but he had now modified his views to some extent; so that if there were any trouble about the lungs or kidneys he would use chloroform.

Dr. WEIR remarked that it had been shown that operations for hernia, and upon the peritoneum in general, had of themselves a direct effect upon the kidneys, independent of the anæsthetic used for the operation.

Dr. JOHN A. WYETH said that he had formulated his views as to the cases in which the use of chloroform was justified as follows:

- (1) In children under six years of age, where it is less apt to cause an accumulation of mucus in the trachea and bronchi than ether. Its more rapid and less irritating action renders it preferable in this class of cases.
- (2) In women in childbirth, where the recumbent position is imperative.
- (3) In an emergency where ether cannot be obtained.
- (4) In a patient who had previously been in ether narcosis, in whom dangerous symptoms were caused by the ether.
- (5) In an emergency where it becomes necessary to perform an operation within two or three hours after the ingestion of solid food.
- (6) In some exceptional cases of laryngeal or tracheal stenosis.

In regard to the existence of nephritis, he would not consider this a positive contra-indication against ether. When this was present, however, he would always proceed with unusual caution, and if any trouble should arise, he would change to chloroform. He entirely agreed, in the main, with what Drs. Knapp and Weir had said. In his own practice he said he had used ether exclusively, except in the classes of cases mentioned, and although his experience had been quite extensive, he had not met with a single case of trouble from it. He had never seen such cases as those referred to by Dr. Gerster. Some of the operations mentioned by him in which ether was followed by such disastrous results were very long and tedious, lasting from three to six hours, and in individuals suffering from cancer; so that a fatal termination would not have been a matter of surprise under any circumstances. In his work on surgery Agnew had collected statistics which showed the deaths from chloroform and ether respectively to be in the proportion of sixty-five to one. Moreover, in half of the deaths attributed to ether in these statistics a mixture of ether and chloroform was employed. As to the good results which Dr. Sayre had met with from chloroform, he believed that his experience with it had been to a large extent confined to young children and parturient women.

Dr. ROBERT ARBE said that he had seen but one death from ether. It was a case of tetanus in which the late Dr. James L. Little was performing amputa-

tion of the leg, and the patient died, apparently from spasm of the heart, before the operation was completed. It seemed to him that ether was preferable to chloroform from the fact that the two principal dangers which had been urged as objections against ether, namely, the possible occurrence of acute pneumonia and acute nephritis were to a large extent under the control of the physician; while the dangers incident to chloroform were entirely beyond control. When asphyxia occurred during ether narcosis the use of artificial respiration and other appropriate measures were usually successful in restoring the patient, and if acute nephritis occurred after the employment of this anæsthetic, it was in his opinion amenable to treatment by such agents as sinapisms, digitalis, acetate of potassium, and, possibly opium. He had never seen a case of this kind in which death resulted. With regard to acute bronchitis and pneumonia, he believed that many of the cases following operations were due, not to the ether which had been employed, but to the exposure of the patient in being carried from the operating-room and in draughty wards. If such troubles were caused by ether, he thought that we should meet with laryngitis much more frequently than is actually the case. During the three years that he had spent at St. Luke's Hospital, seeing both medical and surgical cases, he had found that acute pneumonia arising in the hospital was more frequent in the medical than in the surgical wards. These considerations, he said, gave him great confidence in the use of ether, although he quite agreed with some of the other speakers that when chronic nephritis was present, it should be administered with great caution.

DR. P. F. MUNDÉ said that in his earlier professional career, spent abroad, he had been accustomed to use chloroform, and that since he had been practising in New York he had used ether almost entirely in surgical cases. He had seen no deaths or subsequent bad effects from the latter, either in his own practice or that of others. He had, however, on three occasions — twice in children and once in an adult — met with cases in which death would have resulted from the primary effects of the ether if artificial respiration and other active measures had not been resorted to. While he had been trained to use chloroform exclusively he would confess that he felt ether to be safer, if it was properly administered. The giving of the anæsthetic was, in his opinion, often a more important point than the operation itself. He therefore thought it was entirely wrong to entrust so serious matters to young hospital internes with little or no experience, since to administer an anæsthetic properly required as much experience as to assist intelligently in the actual performance of an operation.

The method for giving ether which he preferred, was by means of Clover's inhaler, in which the amount of air admitted could be carefully regulated. He had seen some cases which could not be well anesthetized with ether, and therefore when he noticed that the mucous membrane was particularly sensitive, he generally substituted chloroform for it for a time, and then afterwards went on with the ether again. He almost always gave bromide, and sometimes a hypodermic injection of morphia, preparatory to administering the anæsthetic. He was inclined to think, however, that morphia might possibly sometimes increase the danger. For short operations, and also in

the case of children, as well as in obstetrical practice, he preferred chloroform to ether.

DR. R. W. AMIDON said that while, as Dr. Gerster had stated, the only real contra-indication against chloroform was a weak heart, it was at the same time true that deaths occurred under it more unexpectedly — often, indeed, without any warning whatever — than when ether was used. In a note in "Holmes' System of Surgery," Dr. J. C. Reeve had said very truly: "There is danger attending the use of chloroform which no foresight can discern, no precaution avoid, and no skill avert."

As to the collection of mucus in the air-passages which Dr. Gerster had referred to as liable to cause such unpleasant and dangerous results when ether was used, this could readily be avoided by the preliminary hypodermic injection of atropia, as he had pointed out in a paper which he had read by invitation two years ago before the New York Surgical Society. When, therefore, any respiratory impediment was anticipated from the effects of the ether, from one-fiftieth to one-thirtieth of a grain of atropia should be administered. By this agent the bronchial and tracheal secretions are diminished, and it also tended to increase the activity of the respiratory centres and strengthen the heart. Dr. Thallen, of Brooklyn, and Dr. Weir had employed atropia to a considerable extent in this connection, and quite recently a case had been reported in the *Medical News*, in which impending death was averted by the administration of digitalis and belladonna.

DR. THALLEN, of Brooklyn, like most of the other speakers, thought that Dr. Gerster was too strongly in favor of chloroform. He agreed with Drs. Weir and Wyeth that the presence of nephritis should not be considered a positive contra-indication against the use of ether, although it should make us cautious in giving it. He related a case which had nearly died from the effects of ether in the hands of Dr. Emmet, and which afterwards came under his own care. After an examination of the urine and the heart, he determined to give ether for an operation that it was necessary to perform, and the patient took it without experiencing any trouble either at the time or subsequently. Still later she took chloroform, and this likewise was unattended with difficulty. He thought, as Dr. Sayre had suggested, that the administration of anæsthetics was largely a question of dosage.

The apparatus which he had adopted he regarded as far superior to Clover's or almost any other, and it was simply the ordinary inhaler used by dentists for nitrous oxide gas. As in the case of the inhaler exhibited by Dr. Sayre, at each inspiration the anæsthetic was inhaled, while the expiration got rid of the foul air. By means of this apparatus he had been able to keep a patient anesthetized for hours, and yet had not used more than a quarter of a pound of ether altogether. With it he had never had any kicking or struggling on the part of the patient, or failed to secure complete anesthesia. There was much ignorance in the profession, he thought, as to the proper administration of anæsthetics, and the ordinary way of giving ether was little less than brutal. The point suggested by Dr. Amidon seemed to him one of great value. He had first seen the idea proposed in the *Lancet* in 1880, if he remembered rightly. It was well known that atropia was one of the best stimulants to the respiratory centres, and it was therefore a valuable prophylactic in this connection.

DR. GERSTER in closing the discussion, said that he regretted that he had been charged with partiality, when he had endeavored to present an entirely unbiased opinion, and that his position had been misunderstood. He had not defended chloroform; but he did mean to say that it was unscientific to claim that either ether or chloroform was, so to speak, "our only salvation." The proper choice of the anæsthetic in each case, should be left to the intelligence and experience of the surgeon. Whatever might be the case with others, he himself had certainly met with a certain proportion of instances in which he could not properly anæsthetize the patient with ether. He had not hesitated to say, however, that he considered ether safer than chloroform, and that it should be preferred to it as a rule. Still, he did not think the statistics which had been quoted altogether reliable, from the fact that while in fatal cases from chloroform the patients died while upon the operating-table, and were thus sure to attract public attention; in many of those where ether was the cause of death the fatal issue did not take place for some time after the anæsthetic was given. He himself knew of a number of cases of death from ether which had never been published.

### Recent Literature.

*Refraction of the Eye, its Diagnosis and the Correction of its Errors.* By A. STANFORD MORTON, M.B., F.R.C.S., etc. Third edition, revised and partly rewritten. pp. 67. Philadelphia: P. Blakiston, Son, & Co.

It is hardly necessary to enter into an extended review of this well-known little book; it is, as its title indicates, a practical guide for the correction of errors of refraction. The chapter upon retinoscopy has been almost entirely rewritten, and in its present form is the best exposition of the diagnosis of errors of refraction by this method, that we have seen. There has been added to the book a series of new test-types.

M. S.

*Manuel Pratique de la Vaccination Animale.* Par L. VAILLARD. Paris. 1886. p. 73.

This excellent little treatise contains the principles of animal vaccination, clearly and concisely stated. The subjects treated are the objects and advantages of animal vaccination, the implements required, the choice of animals, method of inoculation, evolution of the eruption, collection and preservation of virus.

The author follows quite closely the instructions laid down in the larger work of Warlomont. The advice given by the French authorities, as to the preservation of lymph upon ivory points by a coating of mucilage of gum arabic, has two decided objections, namely, the insolubility of the gum as compared with that of dried lymph, and also the liability to employ it as a diluent, substitute or adulterant.

*Fifteenth Annual Report of the Local Government Board. Supplement.* 1885-1886.

This report comes, like its predecessors, replete with valuable papers upon topics connected with public hygiene. Some of its reports have appeared before, and received comment in the JOURNAL, notably the paper upon "Milk-Scarlatina at Hendon."

The statistics upon vaccination show that, of the 890,780 born in the previous year, 762,080, or 85.6

per cent., had been successfully vaccinated, and 81,955, or 9.2 per cent., had died before they could be vaccinated; 1,102 had been registered as insusceptible, 93 contracted small-pox before they could be vaccinated, and 87,440, or 4.2 per cent., were unaccounted for.

These results, as compared with those of previous years, do not seem to show that the anti-vaccination tumults at Leicester and elsewhere had produced much effect on the percentage of vaccinations in England.

Dr. Cory, by careful observations, shows that the "keeping" qualities of bovine lymph are fully equal to those of the humanized lymph, having obtained some successful results from tubes kept upwards of two years.

Mr. Powers gives further observations as to the effect of the Fulham small-pox hospital upon the surrounding neighborhood. Since his former report in 1881, the administration of the hospital had been improved in several directions. Measures were adopted to restrict, as much as possible, the communication with the outside world. An ambulance service was provided, and the number of the sick in hospital at any one time was limited. The conclusions, which he states after a careful estimate of the cases which occurred in the region adjacent to the hospitals, in the epidemics of 1880-81 and 1884-85, are that the changes in the administration of the hospital had little or no influence upon the quantity of small-pox distributed in the recent epidemic, through hospital agency, over the houses of the neighborhood.

Dr. Klein contributes further observations upon the pathology of foot-and-mouth disease; upon the etiology of tuberculosis; of the infection of fowls by human tubercular sputa; and upon the germicide power of bichloride of mercury upon pathogenic and non-pathogenic microorganisms. Mr. Laws contributes a paper upon the growth of the bacillus anthracis in vacuo, and upon its thermal death-point. Other papers follow upon the disinfectant properties of oxygen and ozone, and also upon the changes noted in the aëration of water, as indicating the nature of the impurities represented in it.

*A Companion to the United States Pharmacopœia.*

Being a commentary on the latest edition of the "Pharmacopœia." By OSCAR OLDBERG, Pharm. D., and O. A. WALL, M.D., Ph. G. Second revised edition. 650 illustrations. viii. 1216. New York: Wm. Wood & Co. 1887.

This work, by two of the members of the Committee of Revision of the United States Pharmacopœia itself, contains the description, properties, uses, and doses of all official and numerous unofficial drugs and preparations in current use in the United States, together with practical hints and working formulas. It is designed to be a ready-reference book for pharmacists, physicians, and students, yet it does not, as some other commentaries, repeat so much of the United States Pharmacopœia itself, being intended to serve rather as a companion and supplement to that work, than as a substitute for it.

Most of the illustrations are original drawings by Professor Wall, from actual specimens. A chapter is devoted to practical suggestions upon the use of the microscope in pharmacognosy, and the microscopic structure of plants is briefly treated. It contains practical information relative to the preparation and use of hypodermic and other injections, as well as inhalations, baths, and other forms of medication not usually referred to in books of similar description.

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THE HYGIENE OF APARTMENT-HOUSES.

WHEN in the course of the settlement of any community the price of land available for residential purposes rises above a certain limit, it is inevitable that the increasing tendency towards a concentration of domiciles should reach a point where the dwellings must be superimposed upon one another. Hence the genesis of the apartment-house.

The "tenement-house" the earliest link in the evolutionary chain, of which the latest is the apartment-house, has long been in our larger cities the stumbling block of the social philanthropist and the thorn in the side of the dispensary physician. Much remains to be desired in the condition of these caravanseries for the poorer classes, and yet the vigilance of local health boards is gradually eliminating the worst of these breeding places of disease and foci of degradation. Capitalists are even finding out that it can be made to pay to provide comfortable and hygienic quarters for the class of people whose earnings are two dollars a day or less.

For the more favored class, peculiarly, apartment-houses are now becoming more and more of a necessity, and the objections which were urged against these buildings when they first began to come into use, are, we believe, being found less cogent. Perhaps no one would deny that a detached suburban residence is hygienically preferable for a growing family to an apartment-house. But the former is in many cases, for reasons economic or social, the less feasible alternative, and the important fact should be remembered that the device under consideration usually enables people to live with greater comfort and hygienic advantage than would otherwise be attainable for them in the same topographical locality. In the best of these houses the elevator and fire-escape give to the fifth or sixth story very reasonable accessibility and safety, while the view, the sun-light and the pure air, free of dust, enjoyed by their denizens are very positive elements on the credit side of the hygienic trial-balance.

There are unfavorable elements, some of which are perhaps essential to the structure, intrinsically, as for instance, dark rooms giving upon narrow well-spaces or against blank brick walls, but most of which are confined to the cheaper grades of buildings. One almost universal fault is the lack of ventilation in the common hall-ways and corridors. Few such buildings which we have seen, are free, as one ascends the stairs, from a more or less close and stifling or malarious atmosphere. In many cases this unfortunate state of things is directly favored by the atrocious structural blunder of making the bath-rooms on the successive floors dependent for light and ventilation upon small windows opening into these common passageways.

The item of noise is susceptible of great mitigation through the materials introduced into the floors and partitions of the better class of buildings, though there are few structures in which the endeavors of the too zealous musician are strictly confined to the room that gave them birth.

The heat which is usually supplied to the apartments is sometimes erratic in its distribution, and tenants who are sick or for other reasons are obliged to be up at night, may find that the janitor, either as a reflector of the thrift of the landlord or else as a delinquent in his own proper capacity, has left no source of caloric available for these hours.

In buildings devoid of an elevator, convalescents from sickness are often unable to get out of doors at as early a period as the degree of their recovery would otherwise allow. The same difficulty occurs in the way of the daily airing of young children, of whom the apartment-house usually contains a large proportional contingent, on account of special adaptation of such quarters to young married couples. Yet as a matter of fact not only the most expensive apartment-houses, but many of very moderate cost, do contain elevators, while that convenience is the exception in detached domiciles of corresponding grade, so that the climbing of stairs, which is the bane of the female sex in most urban dwellings, is avoided by a large portion of the women who live in apartment-houses, and the work of nursery maids, and others who take out young children, is proportionally decreased.

THE INFLUENCE OF ALCOHOL ON THE DIGESTIVE FUNCTIONS IN THE NORMAL AND IN THE PATHOLOGICAL STATE.

GLUZINSKI has recently undertaken a series of experiments on human subjects, to ascertain the influence of dilute alcohol on the stomachal digestion. He gave to fasting individuals, some of whom were healthy, and others of whom were suffering from digestive troubles, a certain quantity of coagulated albumen, with a definite proportion of alcohol. At certain periods of the digestion, he syphoned out the contents of the stomach for chemical analysis. He was thus able to follow the march of digestion in its several

stages. The results of his experiments are as follows:

Alcohol rapidly disappears from the stomach, leaving not a trace of its presence behind. The digestion, as influenced by alcohol, is divided into two phases in healthy individuals: The first phase is characterized by a marked retardation of the digestion of albuminoid matters, which, in fact, fail to undergo peptonization as long as any alcohol remains in the stomach. The second phase begins after the elimination of the alcohol. It presents an absolute contrast with the first, and makes up for the slowness of the first period by increased functional activity of the stomach, so that the digestion is terminated about the same time as when no alcohol has been ingested. In the first period, alcohol retards the pepsin digestion. On the other hand, it causes a certain degree of excitation of the glandular elements, which is followed, in the second period, by a more abundant secretion of hydrochloric acid. This excitation persists, even after the albuminous elements have disappeared from the stomach.

The first period, that of slowing of the digestion, is generally very short. Experiments, in fact, show that one hundred grammes of albumen, containing twenty-five per cent. of alcohol, have, in many instances, completely disappeared from the stomach at the end of fifteen minutes. The second period, during which digestion is accelerated, supervenes quite speedily.

The conclusion which Gluzinski draws from these experiments is that, in reality, the ingestion of small quantities of alcohol exercises a favorable influence on the digestion in individuals in good health.

In the pathological state, the two phases of digestion are much less marked after the absorption of a certain quantity of alcohol. The second period, that of excessive functional activity, is almost completely wanting in most persons. These facts show that in cases of dyspepsia (for example), physicians should not recommend, with the intent of promoting digestion, the usage of beverages which contain a large percentage of alcohol.

#### THE PASTEUR INSTITUTE.

We learn from recent French papers that the Society of the Pasteur Institute has declined — for reasons that do not sufficiently appear — the large lot of land offered for the erection of the new building by the Municipal Council of Paris. The Communal Assembly was the scene of an animated discussion on the 22d ult., when was presented the report of Georges Berry concerning a proposition of M. Cateaux, the purport of which was to stay the proceedings of the Council, relative to the concessions granted M. Pasteur. Some of the members present expressed quite freely their utter disbelief in the efficacy of Pasteur's anti-rabic inoculations, which were credited with numerous deaths, and congratulated the Council on being rid of a burden of responsibility. M. Navarre told the Assembly that in giving moral support to

Pasteur, the Council was recognizing the worth of a method whose scientific validity was every day being disproved, and he added with fearful sarcasm: "*S'il est des morts qu'il faut tuer, M. Pasteur n'est pas de ceux-là, car il s'est suicidé.*" (If there are more dead men to kill, Pasteur is not among them, for he has killed himself.)

Against this sentiment, the President and others present (notably M. Cochûn) vehemently protested, and assured the Council that the Committee of the Pasteur Institute had no intention of renouncing their humanitarian work whose general utility (despite some inevitable failures) had been sufficiently recognized. Pasteur would go on with his labors, perfecting them by new experiments and researches, and France was honored when its government aided the beneficent enterprises of its men of genius. In the meantime we learn on good authority that M. Pasteur is the subject of advanced nephritis, and is not likely to survive long to continue his labors.

#### MEDICAL NOTES.

— The following items from the *Hamburger Nachrichten* and *North German Allgemeine Zeitung* have been received from the United States consul at Hamburg:

"In consequence of the suspicious death which yesterday occurred at Pesth, bacteriological examinations have been made, which have shown that the person in question really did die of Asiatic cholera. Yesterday a fresh case is said to have been discovered."

"Constantinople, March 29th.—In consequence of cases of cholera at Pesth, a quarantine of five days has been ordered for products coming from the Danube and the Black Sea from the mouth of the Soolina to Boorghas."

— United States Consular reports from Catania state that eight cases of cholera and three deaths from that disease were registered during the week ending March 26th. The consul says that "the wells of the city (with few exceptions) have been closed by official order. Water has been brought to the city from the slopes of Etna in closed conduits. As soon as this water came into use the cholera began to disappear. During the past four days no cases or deaths have been reported. It is hoped that the malady has terminated. Application has been made to the government to have quarantine removed."

— Kanehiro Takaki, Medical Director General of the Imperial Japanese Navy, publishes in the *Sei-I Kwai Medical Journal*, April, 1887, a tabulated report of the patients suffering from kakke (beri-beri) in the navy, from 1878 to 1886. The following is the total number in each of these years, beginning with 1878. 1,485, 1,978, 1,725, 1,163, 1,929, 1,172, 661, 9, 3. The deaths during the same years were, respectively, 32, 57, 27, 30, 51, 49, 8, 0, 0. The enormous decrease in the cases of the disease during the last two years, is ascribed by the director-general to an improvement in the scale of diet made in April, 1884. He adds that even the few cases in the last two years were found after examination to have occurred among those who did not share the improvement in the food.

—The *New York Medical Journal* publishes an abstract from a book, giving the history of a journey to Saragossa, Barcelona, and Valencia, in the year 1585, by Philip II, of Spain, in which is contained an alleged instance of remarkable fecundity. The book was written by Henrique Cock, who accompanied Philip as his private secretary. On page 248, the following statements are to be found: "At the age of eleven years, Margarita Gonzalez, whose father was a Biscayan, and whose mother was French, was married to her first husband, who was forty years old. By him she had seventy-eight boys and seven girls. He died thirteen years after the marriage, and, after having remained a widow two years, the woman married again. By her second husband, Thomas Ochoa, she had sixty-six boys and seven girls. These children were all born in Valencia, between the fifteenth and thirty-fifth years of the mother's age, and at the time when the account was written she was thirty-five years old, and pregnant again. Of the children, forty-seven by the first husband, and fifty-two by the second were baptized; the other births were still or premature. There were thirty-three confinements in all.

—The London correspondent of the *Philadelphia Medical Times* writes that Mr. W. H. Power, one of the medical inspectors for the Local Government Board, seems to have shown, that, in some way not easy to understand, a small-pox hospital in a town causes a greater incidence of small-pox in its immediate neighborhood. He has taken the statistics for a great many hospitals, and has written a number of reports to his Board on the subject. One of the most recent relates to the small-pox hospital at West Ham. He found that within an area contained by a circle described three-quarters of a mile from the hospital, the death-rate from small-pox was much higher than in other parts of the same districts. It was never less than twice, and had risen to ten times, the general rate. Mr. Power has also given statistics which tend to show that the number of cases shows a progressive decrease on passing from the immediate neighborhood of the hospital in every direction. No explanation has yet been afforded of the influence of the hospitals. It seems to be independent of the winds, and the explanation at first suggested — that it was due to clandestine or accidental communication between the hospital inmates and attendants and the neighbors — is now found to be inadequate.

#### BOSTON AND NEW ENGLAND.

—A prominent dealer in spring waters in Boston, has lately placed before the medical profession and the public a new mineral water, which he claims, in staring capitals, is especially beneficial in cases of *DIABETIS*.

—*Essex North Medical Society.* At the annual meeting, held at the Franklin House, in Lawrence, May 4, 1887, the following officers were elected for the ensuing year. President, E. P. Hurd, of Newburyport; Vice-President, C. G. Carleton, of Lawrence; Secretary and Treasurer, M. D. Clarke, of

Haverhill; Corresponding Secretary, Aug. Stabler, of Lawrence; Censors: John Crowell, F. B. Flanders, J. F. Young, R. C. Huse, A. F. Shea; Councillors: H. J. Cushing, F. A. Howe, George Montgomery, F. H. Allen, R. B. Root, C. N. Chamberlain, O. H. Johnston, L. A. Woodbury, H. M. Chase; Commissioner on Trials: F. A. Howe, of Newburyport; Nominating Committee: C. N. Chamberlain, of Lawrence. The Censors reported the following doctors admitted as members of the Society: Franklin B. Pierce, of Methuen, Susan Elizabeth Crocker, of Lawrence, Joseph G. Burque, of Haverhill.

—*Norfolk South District Medical Society.* The annual meeting of the Norfolk South District Medical Society took place at the Robertson House, Quincy, May 4, 1887. The following officers were elected: President, Dr. J. H. Robbins, of Hingham; Vice-President, Dr. C. A. Dorr, of Hingham; Secretary and Treasurer, Dr. John F. Welch, of Quincy; Librarian, Dr. F. C. Granger, of Randolph; Commissioner of Trials, Dr. C. E. Prior, of Holbrook; Censors, Drs. J. C. Fraser, of East Weymouth, C. E. Prior, of Holbrook, S. M. Donovan, of Quincy, C. C. Tower, of South Weymouth, and G. W. Tinkham, of Weymouth; Councillors, Drs. J. A. Gordon, of Quincy, J. W. Spooner, of Hingham, and F. C. Granger, of Randolph; Nominating Councillor, Dr. J. A. Gordon, of Quincy.

#### NEW YORK.

—The commencement exercises of the Mount Sinai Hospital Training School for Nurses were held at the nurses' building near the Hospital, on the 5th of May. Two of the graduates read essays, and addresses were made by Ex-Governor Hoadley, of Ohio, and Dr. Heineman; after which refreshments were served and a social reception held.

—While during the weeks ending April 16th and 23d, only four cases of small-pox a week are reported, and during that ending April 30th, five cases; since then a considerably increased number have been met with by the authorities. One of these was in a German immigrant who was taken with the disease during the voyage to this country and who died while being removed from quarantine to the small-pox hospital on North Brother Island.

—The annual commencement of the college of Physicians and Surgeons is announced to take place at Steinway Hall on Wednesday evening, May 12th, when the address to the graduating class is to be made by the Hon. Stewart L. Woodford.

#### Miscellany.

#### ELECTRICITY IN THE TREATMENT OF TEDI- OUS LABOR AND POST-PARTUM HÆMOR- RHAGE.

A CASE reported by Dr. Guice de Fayette, (*Arch. de Tocologie*, February 28, 1887, and *London Medical Record*, April 15th,) is as follows: The patient was a

primipara, twenty-three years of age. Twelve days before labor came on, Dr. de Fayette was engaged to attend her, and on examining her urine, he found it contained a large quantity of albumen. When labor commenced, her face was oedematous, pulse 110. Head presented in the first position. The *os uteri* was at first rigid, but gave way after a dose of two grammes of chloral-hydrate. Uterine contraction was feeble and ineffectual. After working twelve hours, a strong and rapidly interrupted current of electricity was brought to bear on the inert uterus. When the head came down on to the perineum, the current was stopped. After delivery, as the uterus did not contract well, a dose of ergot was given. About an hour later the doctor was called hurriedly upstairs and found his patient flooding. He at once passed his hand into the uterus, but did not succeed in setting up contraction; he then removed the clots and injected vinegar, but still no effectual contraction took place. The injection of hot water was equally in vain. The battery was then called into requisition, and with the positive electrode in the patient's hand, and the doctor holding the negative electrode in his left hand, he grasped the flaccid uterus through the abdominal walls with his right hand; the effect was instantaneous, the uterus at once becoming powerfully contracted and the hæmorrhage ceased. After a few minutes the current was discontinued and the bleeding did not recur.

#### POISONING BY DRESSINGS OF SUBNITRATE OF BISMUTH.

THE *Paris Medical* of January 22d, and the *London Medical Record* of March 15th, contain notes of a case of poisoning after dressings of subnitrate of bismuth, described by M. P. Dalché, before the Société de Médecine Légale de France. A woman of thirty, in M. Peyrot's ward, was treated for two burns. One of these was of the third degree, and extended in length from the lower angle of the shoulder-blade to the gluteal region, and occupied the entire width of the back. The other was a large burn on the left arm. On September 26th these wounds were dressed with subnitrate of bismuth. The dressing, though renewed every second day, did not prevent them from becoming fetid. The general condition of the patient improved. On October 11th the throat became sore; there was dysphagia. There were pseudo-white membranes on the lower surface of the upper palate, the uvula, and the tonsils. On October 13th the patches had spread, the mucous above them was black, and the edge of the gums of the lower jaw was rough and dark-brown in color. There was a pseudo-white membrane, resting on a black spot of the mucous, on the lower lip. The general condition was good. There was no albumen in the urine. A few days later the breath became fetid, and there was gangrene of the upper palate. On the 26th the patches above described had partly disappeared, but there was a burning sensation under the tongue, and a series of black spots formed a track, upon which several pseudo-white membranes appeared. There were violent diarrhœa and continual vomiting; the gums and the patches on the buccal surface of the cheeks had a rough black edge. The bismuth dressing was abandoned. Up to November 1st, vomiting, diarrhœa, and hiccoughs per-

sisted. There was albumen in the urine. On November 5th there were pains along the œsophagus; a number of the patient's teeth were loosened; nevertheless there was slight improvement, which continued, and the patient completely recovered by the middle of December. M. Dalché is convinced that bismuth was the cause of the lesions observed, which were not the lesions peculiar to diphtheria, nor to any known stomatitis. The bismuth was pure; its presence was detected in the fecal matters and in the urine.

#### SYMMETRICAL GANGRENE (RAYNAUD'S DISEASE) FOLLOWING VARICELLA IN A CHILD, AGED FOUR, CAUSING DEATH ON THE FOURTH DAY.

MR. EDWARD BELLAMY reported an interesting case of this disease before a recent meeting of the Clinical Society of London (*Medical Press and Circular*, April 6, 1887): The patient was admitted under his care on January 19, 1887. On admission, she had spots of varicella over her body and face, which were first noticed on the 16th. On the evening of the 19th, at 7 o'clock, the child complained of her right leg being sore, and a small, circular, black patch, about as large as half-a-crown, was seen below the inner side of the knee. By 10 o'clock this patch had extended down the leg to the foot, when she was brought at once to the hospital. On arrival, a similar patch had made its appearance just above the left ankle, and which rapidly extended up to the knee. The patient was unable to stand, complained of great pain in both legs, and which increased on pressure. The second, third, and fourth toes of the right leg exempt from discoloration, and the fifth but slightly mottled. Shortly after admission, an oblong patch, about two inches by two inches, appeared on the outside of the left thigh. On the 21st, a small patch appeared on the outer side of the right forearm, and slight discoloration on either side of the spine, on a level with the crest of the ilium; in the afternoon of the same day, in either cheek and conjunctivæ of both ears. The complexion was very white, face sallow, expression dull and heavy, tongue dry and brown, but reddish at tip; pulse 150, weak; temperature 100°, heart-sounds normal; breathing normal, both legs cold and insensitive; pulsation, left femoral, fairly distinct, but could not be felt in right. Urine: specific gravity, 1023; clear, pale, no trace of albumen, and no hæmoglobin could be detected. In the evening of the 21st she became suddenly seized with stertor, and died. A full account of the post-mortem accompanies the paper. Among the most interesting points are the following: There was an enormous opening in the foramen ovale, bounded below by a valve one-fourth of an inch deep, having a free, crescentic margin. On dissection of the right leg, the fat and skin and gangrenous parts were dark purple, from hæmorrhagic infiltration, and this appearance died away at apex of Scarpa's space. The obvious gangrene ceased just above the inner condyle, the skin above being apparently normal. The legs appeared quite gangrenous, being uniformly purple. There were some petechiæ or small hæmorrhages in the intermuscular plane, the muscles themselves being very strongly contracted by rigor mortis, and appearing almost healthy, except where, here and there, they showed small hæmorrhages; this was especially the case in

the deeper fibres of the soleus. The femoral glands were a good deal enlarged, and either hemorrhagic, or containing a quantity of blood pigment. The saphena vein contained only post-mortem clot.

#### THE PROGNOSIS IN CASES OF HEART DISEASE.

In the *British Medical Journal* for February 12 and 19, 1887, Sir Andrew Clark reports a long series of cases of valvular diseases of the heart known to have existed over five years without causing serious symptoms, from a study of which he draws the following conclusions:

"*First.* That there are many persons with long-standing valvular disease of the heart engaged in the active business of life, who, without any symptom of heart disorder, have enjoyed good health, and have reached an advanced age.

"*Second.* That the mitral regurgitant murmurs so often encountered in chorea, for the most part disappear within eight or nine years of the attack.

"*Third.* That valvular inflammations, and their effects arising in the course of rheumatic fever, do sometimes disappear, and leave behind no clinical evidence of their former existence; and that this, occurring for the most part in the young, also occurs sometimes in the middle-aged.

"*Fourth.* That the signs of valvular defects arising out of the degenerative changes of middle life do, also, on rare occasions, disappear; and that, when circulatory and respiratory disturbances accompany their commencement, they sometimes subside, and permit of apparently complete readjustment.

"*Fifth.* That as there must be in the histories, habits, occupations, and surroundings of patients with valvular disease, conditions, which, in one case, bring about secondary disorders, and, in another case, exempt it from them, it is desirable that the respective *differential* should be discovered, and made capable of application to practice.

"*Sixth.* That any systematic and critical study of this subject likely to lead to practical issues could be undertaken only by the Collective Investigation Committee, and not by it unless actively assisted by experienced general practitioners, who possess, in a special manner, the knowledge necessary to the end in view.

"*Seventh.* That a joint inquiry of the kind proposed, conducted with due patience, discrimination, and accuracy, would greatly extend our knowledge of the natural history of diseases of the heart, and largely increase our means of assisting those who suffer from them."

#### JUVENILE INTERMITTENT ALBUMINURIA.

CONSIDERABLE interest attaches to cases of cyclical albuminuria, for their pathology is unknown, and, perhaps, is different in different cases. The causation of mere intermittency of symptoms generally has not received adequate attention. The *Lancet* gives the facts collected by M. Teissier in a fresh series of ten cases of cyclical albuminuria. He lays stress on the following features: A separation of oily matter on the urine, and the presence in it of brilliant bluish or metallic-looking spangles; the absence of true casts, though cylindroids, possibly of mucus, and sometimes drops of fat, may be detected with the microscope;

the slowness of the subjective symptoms, which may consist of mere vague feelings of malaise, of pain in the back, of weakness, or of pains in the limbs. Neuralgic troubles are rare. There is great nervous excitability or impressionability. Physical examination has never revealed the "bruit de galop." The lowness of arterial tension, which is calculated to be equal to a column of mercury sixteen to seventeen centimeters high, is important as an item in the differential diagnosis of cyclical albuminuria from interstitial nephritis. Dilatation of the stomach was observed in three cases. Three patients had had eczema or urticaria. Neither œdema nor "dead fingers" was noted. Speaking generally, the aspect of the patients is one of good health. The complaint, if such it can be called, is commonly curable; but slight relapses may recur under the influence of fatigue or violent impressions. The age that is most liable to the affection is ten years from puberty onwards; males suffer more than females. Violent exercise and excessive emotional excitement are direct causes. Teissier does not accept the mechanical theory of Bar, nor the theory of disturbance of the glomerular circulation of Maguin. His own view, propounded two years ago at Grenoble, he now believes to be insufficient to explain all the phenomena. A slowing of the combustion of albumens will not explain the presence of fatty matters, or the increase of urea in the urine. His present position is to regard the malady as due to over-action of the liver, which is the factor for urea, uric acid, and fatty matters. In treatment, the importance of hygiene is very great. These patients are, perhaps, predestined to become gouty. Shampooing, plenty of fresh air, prohibition of alcohol and white wines, and moderate exercise, are to be prescribed for these young men. Arsenic, inhalations of oxygen, cold baths, bromides and hydrotherapy, tannin, benzoate of soda, etc., are recommended, but especially sweet spirits of nitre, twelve to fifteen drops a day (alcool nitrique). Milk, eggs, and ham may be eaten, but not fish; thermal waters are good.

#### CAFFEINE AS A DIURETIC.

W. v. SCHROEDER, of Strasburg, has carried out a series of careful experiments, originally published in the *Arch. f. exp. Path. u. Pharm.*, Vol. XXII, 1886, and contained in the *Practitioner*, March, 1887, on the action of caffeine as a diuretic, using rabbits mainly, and also a few pigeons. His method was to tie a canula in one or both ureters, to collect the urine before and after administration of the drug, and to compare it with that of a probably normal animal, in quantity and quality. The first experiments were performed under the influence of morphine; but soon the results became inconstant, and in the later cases, even negative, the reflex excitability of the animal having greatly increased. He therefore had recourse to chloral, which deadened the nervous system more completely, and under which the flow of urine, though increased from the normal, remained practically constant. He obtained the same results by narcotizing with morphine, and cutting the renal nerves. After the administration of chloral, .02 gramme of caffeine in solution was injected into the jugular vein of the rabbit; and in the course of ten to fifteen minutes the flow of urine increased considerably, and continued so, more or less, for a period of from two to three hours.

On an average, the volume increased to about ten times the normal, and the solids three times, the nitrogen being correspondingly increased. Similar results were obtained from a few experiments carried out in the same manner on the pigeon. Caffeine itself causes a fall of the general blood-pressure, and in this way, influences to a slight extent the secretion of urine. However, after eliminating the central nervous system, either by section of the renal nerves, or the administration of a full dose of chloral, the effect of caffeine on the flow of urine is very striking. This leads him to conclude that its chief, if not its entire, effect is local, and he compares its action with that of pilocarpine on the salivary glands, except that it does not act through the medium of secretory nerves, but directly on the kidney substance. Whether the action is on the glomeruli or on the convoluted tubules is not clear, but he inclines to the view that caffeine is a direct stimulator of the renal epithelium. The complaint of the uncertainty of the action of caffeine as a diuretic is, he believes, due to its effect on the central nervous system, coinciding with the results of his first experiments, and referable to different susceptibility of the nervous system in different individuals. He therefore recommends the use, with caffeine, of some substance which may depress the nervous system, and he finds that paraldehyde serves the purpose very well. From his investigations, Von Schroeder concludes that caffeine acts in two ways: First, by exciting the central nervous system comparably to strychnine, which interferes with the secretion of urine; and secondly, by acting directly on the kidney substance, this effect being characterized by the occurrence of a free flow of urine.

## OBITUARY.

G. P. PRATT, M.D.

At the annual meeting, at Quincy, of the Norfolk South District Medical Society, the following resolutions were adopted, *apropos* the death of Dr. Gustavus Percival Pratt, of Cohasset, which took place April 29th:

*Whereas*, It has pleased an all-wise Providence to cause us to mourn the death of Dr. Gustavus P. Pratt, a worthy and much respected member of this Society.

*Resolved*, That we, members of said Society, do hereby tender to his bereaved family our heartfelt sympathy in their great affliction:

That we express to his numerous patrons our sorrow for the death of their loved and honored physician:

And that we condole with the people of Cohasset, in their loss of a prominent and valued citizen.

E. T. CASWELL, M.D.

At the meeting of the Staff of the Rhode Island Hospital, held on the 4th inst., the following was presented:

The surgeons and physicians of the Rhode Island Hospital, fully impressed with the great loss which they have suffered in the death of their late colleague and president, Edward Thompson Caswell, M.D., desire to express their recognition and appreciation of his marked ability as a man and physician.

Associated with the hospital from its very beginning his fidelity to its interests and his conscientious devotion to its exacting and time-consuming duties—even long after his health and strength had been sadly undermined by disease—commands our sincere admiration and respect and present characteristic qualities that awaken our endeavors to follow and emulate.

His long-continued and thorough medical education, his extended experience and high sense of professional honor, all combined to make his death, in the prime of life, a very great loss, not only to the hospital and the patients in its wards, but to each of his colleagues and to the profession that he adorned.

*Resolved*, That the Secretary be instructed to enter these resolutions upon the records of the Staff Association, transmit a copy to the family of the deceased, to the Journals for publication and to the Board of Trustees.

J. W. C. ELY, M.D., President, pro tem.,  
J. W. MITCHELL, M.D., Secretary, } Committee.

## Correspondence.

## BERI-BERI AGAIN BROUGHT TO NEW YORK.

BOSTON, May 9, 1887.

MR. EDITOR,—The enclosed cutting from a New York paper, kindly sent me by Dr. E. N. Whittier, speaks for itself. Beri-beri is again landed on our shores and again breaks out more than two months after leaving a country where the disease is endemic.<sup>1</sup>

Yours truly,  
FREDERICK C. SHATTUCK, M.D.

*Terrible Suffering of a Ship's Crew.*—New York, May 7.—The ship "Albana," from Manila, arrived to-day. She left Manila 119 days ago and out of a crew of nineteen able-bodied men, only six were able to work when she came into port. When seventy-five days out, the crew began complaining of pains in their legs, followed by peculiar swellings which soon rendered the majority unfit for work.

## LETTERS FROM DR. GEORGE HAYWARD RELATING TO THE INTRODUCTION OF SULPHURIC ETHER.

The following extracts are from two letters, written by Dr. George Hayward, at the time of the introduction of sulphuric ether, which were recently deposited with the Boston Medical Library Association, by Dr. Benjamin Cushing, to whom they were originally addressed in Paris.

BOSTON, January 30, 1847.

... There have been quite a number of operations at the hospital this winter, and all the patients operated on have thus far done well. Many of them have inhaled the vapor of sulphuric ether, and have thus been rendered totally insensible to pain during the operation. I have amputated a thigh, removed a breast, and done several other operations, almost equally severe, and the patients have suffered nothing at the time, and have had no ill effects afterwards. This is a wonderful discovery, and the credit of it belongs to Dr. C. T. Jackson, the chemist, and Dr. Morton, the dentist; Dr. Jackson suggested the use of the ether, and Dr. Morton made the first successful application of it. I see by the last journals that they are beginning to use it in London, and it will not be long before you will hear of it in Paris, if it be not there already.

We were the first to use it in surgical operations at our hospital (Massachusetts General) and I performed the first important operation, amputation of the thigh, in a patient under the influence of it. The effects in this case were so decided, that it was immediately used by others, and it is now employed to a great extent, not only by the dentists, but by surgeons. It is, however, violently opposed in Philadelphia, probably because it was not discovered there, and not first brought into use in the Pennsylvania Hospital.

FEBRUARY 28, 1847.

... I have taken a good deal of interest in the inhalation of the vapor of sulphuric ether to lessen the pain of surgical operations, and I am rejoiced to perceive that it has been so well received in Europe and so successfully used. I did the first important operations, on patients under the influence of it, that were ever performed. The first was the removal of a tumor from the arm of a woman, which took place at the hospital on the 17th of October, soon after my return, and on the 7th of November I amputated the thigh of a girl. Both patients were entirely insensible during the whole operation and both recovered rapidly without an unpleasant symptom.

These were the two first cases in which complete insensibility to pain was produced by the ether, except for the extraction of teeth. Since that time I have used it constantly, both at the hospital and in private practice,

<sup>1</sup> Journal, April 14, 1887.

with almost uniform success, and without any ill consequences in any case.

The article employed is nothing but pure sulphuric ether, and care should be taken that the lungs are well supplied with atmospheric air, so that asphyxia should not be produced, at the same time all the air that is taken into the lungs should be well charged with the vapor of the ether.

With regard to the discovery, there is no doubt that Dr. C. T. Jackson suggested its use to Dr. Morton to produce insensibility, but it is certain that Dr. Morton is the first who ever operated on patients, who were made insensible by the ether. He is a dentist and of course only used it for the extraction of teeth. After repeated successful experiments in dentistry, he requested that it might be used in more important operations at the hospital. This was done and the results were most satisfactory. I have stated this because Dr. Jackson has written to

France, claiming the whole merit of the discovery, taking no notice whatever of the part which Morton has had in it. I hope you will take some pains to let M. Velpeau and other surgeons know this. Morton, in my opinion, is entitled to great credit for the successful application of a suggestion of Dr. Jackson. All that the latter knew was, that persons could be rendered insensible for a time by the inhalation of sulphuric ether, but it remained for Dr. Morton to prove the all important point, that while in that state they could undergo surgical operations without pain.

I send you a copy of the *Medical Journal* containing Dr. H. J. Bigelow's account of the experiments with the ether, and I should be very glad if you would show it, as well as what I say about it in this letter, to my friend Mr. George Sumner (brother of Charles Sumner). I should be glad if he would take some pains to set the savans in Paris right upon the subject.

## REPORTED MORTALITY FOR THE WEEK ENDING APRIL 30, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrheal Diseases.	Diph. & Croup.	Measles.
New York . . . . .	1,481,920	729	251	17.36	23.52	18.48	11.93	.84
Philadelphia . . . . .	993,801	—	—	—	—	—	—	—
Brooklyn . . . . .	745,108	314	101	16.00	19.74	.32	9.60	.64
Chicago . . . . .	725,000	—	—	—	—	—	—	—
St. Louis . . . . .	420,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	119	35	10.32	11.18	1.72	2.58	.86
Boston . . . . .	400,000	191	61	12.19	16.96	1.06	3.18	1.06
New Orleans . . . . .	242,750	136	52	17.02	12.58	11.10	2.96	.74
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
District of Columbia . . . . .	210,000	86	28	4.64	2.32	1.16	—	1.16
Pittsburgh . . . . .	210,000	59	28	28.02	15.21	3.38	3.38	10.14
Montreal . . . . .	186,257	—	—	—	—	—	—	—
Milwaukee . . . . .	170,000	—	—	—	—	—	—	—
Providence . . . . .	121,000	28	—	42.84	32.13	—	17.85	25.00
Richmond . . . . .	100,000	—	—	—	—	—	—	—
New Haven . . . . .	80,000	—	—	—	—	—	—	—
Newport . . . . .	19,566	—	—	—	—	—	—	—
Charleston . . . . .	60,145	30	11	23.33	6.66	6.56	—	2.33
Portland . . . . .	40,000	13	4	—	—	—	—	—
Worcester . . . . .	68,383	31	8	4.76	14.28	—	—	—
Lowell . . . . .	64,051	33	19	33.33	15.15	3.03	15.15	15.15
Cambridge . . . . .	29,620	—	—	—	—	—	—	—
Fall River . . . . .	56,863	—	—	—	—	—	—	—
Lynn . . . . .	45,861	25	4	—	36.00	—	—	—
Lawrence . . . . .	38,825	9	3	—	11.11	—	—	—
Springfield . . . . .	37,577	—	—	—	—	—	—	—
New Bedford . . . . .	35,393	10	—	—	10.00	—	—	—
Somerville . . . . .	29,922	7	1	—	—	—	—	—
Salem . . . . .	28,084	18	4	16.66	5.55	5.55	5.55	—
Holyoke . . . . .	27,894	—	—	—	—	—	—	—
Chelsea . . . . .	25,709	17	5	23.52	—	—	—	17.97
Taunton . . . . .	25,674	7	3	14.28	14.28	—	—	—
Haverhill . . . . .	21,735	—	—	—	—	—	—	—
Gloucester . . . . .	21,713	8	1	—	25.00	—	—	—
Brookton . . . . .	20,783	5	2	20.00	20.00	—	—	—
Newton . . . . .	19,759	4	1	—	—	—	—	—
Malden . . . . .	16,407	9	0	22.22	—	11.11	—	—
Fitchburg . . . . .	15,573	3	0	—	—	—	—	—
Waltham . . . . .	14,609	4	0	—	25.00	—	—	—
Newburyport . . . . .	13,716	7	2	—	28.56	—	—	—
Norhampton . . . . .	12,806	3	0	—	33.33	—	—	—

Deaths reported 2,494; under five years of age 834; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 370, acute lung diseases 335, consumption 342, diphtheria and croup 145, measles 49, diarrheal diseases 43, scarlet fever 26, typhoid fever 26, malarial fever 23, whooping-cough 13, erysipelas 10, puerperal fever seven, cerebro-spinal meningitis six, small-pox (New York) two. From scarlet fever, New York 16, Brooklyn three, Boston and Pittsburgh two each, Philadelphia, Chelsea and Taunton one each. From typhoid fever, Boston nine, Philadelphia six, New York, District of Columbia, and Charleston, two each, Baltimore, Pittsburgh, Lowell, Salem and Brockton one each. From malarial fevers, Brooklyn nine, New York seven, Philadelphia, Baltimore and New Orleans, two each, Charleston one. From whooping-cough, New York four, Philadelphia three, Baltimore and Pittsburgh, two each, Brooklyn and Boston one each. From erysipelas, Brooklyn four, Philadelphia three, New York, Boston and Baltimore, one each. From puerperal fever, New York and Pittsburgh three each.

Charleston one. From cerebro-spinal meningitis, New York two, Richmond, New Orleans, Lowell and Malden one each. In the 18 cities and greater towns of Massachusetts, with a population of 876,014 (population of the State 1,942,141) the total death-rate for the week was 22.44 against 24.38 and 22.18 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,099, for the week ending April 16th, the death-rate was 20.9. Deaths reported 5,026; infants under one year of age 845; acute diseases of the respiratory organs (London) 363; measles 296, whooping-cough 115, scarlet fever 45, diphtheria 32, diarrhoea 26, fever 24.

The death-rates ranged from 10.6 in Bradford to 35.3 in Huddersfield; Birmingham 18.3; Bradford 19.5; Derby 17.8; Hull 19.9; Leeds 20.9; Leicester 21.5; Liverpool 25.3; London 19.8; Manchester 31.7; Newcastle-on-Tyne 22.9; Nottingham 21.9; Portsmouth 24.2; Sheffield 22.9; Sunderland 18.1.

In Edinburgh 18.4; Glasgow 27.4; Dublin 34.1.

The meteorological record for the week ending April 30, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.		Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.			
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.		
Saturday, Apr. 30, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ... 24	29.845	48.0	64.0	43.0	93.0	75.0	63.0	77.0	N.	S.E.	N.W.	11	10	6	O.	C.	C.	—	—
Monday, ... 25	29.268	51.0	60.0	41.0	37.0	43.0	87.0	26.0	N.W.	S.	S.	2	16	0	C.	F.	R.	—	—
Tuesday, ... 26	29.752	46.0	55.0	33.0	100.0	79.0	75.0	71.0	N.E.	N.W.	S.W.	24	11	9	R.	O.	C.	—	—
Wednesday, ... 27	29.904	52.0	58.0	43.0	63.0	33.0	39.0	45.0	W.	W.	N.	12	22	3	C.	C.	C.	—	—
Thursday, ... 28	29.713	48.0	58.0	41.0	73.0	87.0	100.0	87.0	S.E.	S.E.	E.	8	8	16	C.	T.	R.	—	—
Friday, ... 29	29.166	50.0	56.0	43.0	87.0	100.0	100.0	96.0	E.	E.	N.	16	12	10	O.	G.	G.	—	—
Saturday, ... 30	29.579	51.0	57.0	48.0	75.0	54.0	57.0	62.0	W.	W.	N.W.	20	18	32	O.	T.	O.	—	—
Mean, the Week.	29.675	49.0						71.0										42	1.54

1 O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; Sl., Sleet.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 30, 1887, TO MAY 6, 1887.

FRYE, BLENOWE E., major and surgeon. Ordered for examination by Army Retiring Board, at San Francisco, Cal. S. O. 101, A. G. O., May 2, 1887.

BILLINGS, JOHN S., major and surgeon. Granted leave of absence for ten days, to take effect May 3, 1887. S. O. 98, A. G. O., April 28, 1887.

STERNBERG, GEORGE M., major and surgeon. Assigned by the President, to the special duty, under the Treasury Department of "investigating the merits of the method practised in Mexico and Brazil for preventing yellow fever by inoculation." Relieved from duty as attending surgeon and examiner of recruits in Baltimore, Md. S. O. 101, A. G. O., May 2, 1887.

MIDDLETON, J. V. D., major and surgeon. HAPPESETT, J. C. G., major and surgeon. AINSWORTH, F. C., captain and assistant surgeon. Appointed to assemble at U. S. Military Academy, West Point, N. Y., on June 1st, to examine as to the physical qualifications of the members of the graduating class and of the candidates for admission to the academy. S. O. 102, A. G. O., May 3, 1887.

LORING, LEONARD Y., captain and assistant surgeon. Sick leave of absence still further extended six months, on surgeon's certificate of disability. S. O. 103, A. G. O., May 4, 1887.

BRATT, VICTOR, captain and assistant surgeon. Sick leave still further extended one year on surgeon's certificate of disability. S. O. 99, A. G. O., April 29, 1887.

EWING, CHARLES B., first lieutenant and assistant surgeon. Ordered from Fort Leavenworth, Kan., to Fort Lewis, Colorado, for temporary duty. S. O. 100, A. G. O., April 30, 1887.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MAY 7, 1887.

SHAFFER, JOSEPH, assistant surgeon. Detached from the "Minnesota," and to the "Ossipee."

SIMON, W. J., surgeon. Ordered to the United States Steamship "Boston."

HENRY, C. F., assistant surgeon. Detached from hospital, Philadelphia, and to the "Boston."

MEANS, VICTOR C. B., assistant surgeon. Detached from hospital, Mare Island, and to the hospital, New York.

SIMONS, MANLY H., passed assistant surgeon. Detached from Naval Academy and to the "Constellation."

DICHL, OLIVER, passed assistant surgeon. Detached from hospital, New York, and to the hospital at Philadelphia.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING MAY 7, 1887.

WYMAN, WALTER, surgeon. Detailed as chairman, Board for physical examination of candidates for appointment as cadet, Revenue Marine Service, May 6, 1887.

MEAD, F. W., passed assistant surgeon. Detailed as recorder, Board for physical examination of candidates for appointment as cadet, Revenue Marine Service, May 6, 1887.

#### SOCIETY NOTICE.

MEDICAL EDITORS' ASSOCIATION.—The next meeting of the Medical Editors' Association will be held in Chicago, on Monday evening preceding the meeting of the American Medical Association. The President, Dr. Shoemaker, will deliver an address, "Some of the Present Abuses of Medical Literature." It is desirable that all medical editors who can shall attend, as the organization is a permanent one and largely social. Dr. J. L. Gray, 70 Monroe Street, Chicago, is Chairman of the Committee of Arrangements. Members of the press who expect to be present should send their names as early as possible to the Secretary.

DR. WILLIAM PORTER,  
3137 Lucas Avenue, St. Louis.

#### DEATH.

Died in Boston May, 6, 1887, Marcus Bloomfield Leonard, M.D., M.M.S.S., aged sixty-six years, two months, ten days.

#### BOOKS AND PAMPHLETS RECEIVED.

Post-Graduate Instruction in Gynecology. By Henry C. Coe, M.D., M.R.C.S. 1887. (Reprint.)

Annual Report of the Board of Health of the City of Lowell, for the Year 1886. Lowell, Mass., 1887.

Ueber das Vorkommen der Albuminurie bei Diabetes Mellitus. Von Dr. Arnold Pollatschek, Carlsbad. Abdruck.

Massachusetts Society for the Prevention of Cruelty to Children. Sixth Annual Report for 1886. Boston, 1887.

Twenty-Sixth Annual Report of the Cincinnati Hospital for the Fiscal Year ending December 31, 1886. Cincinnati, 1887.

Evacuant Medication (Cathartics and Emetics). By Henry M. Field, M.D. Philadelphia: P. Blakiston, Son & Co. 1887.

Twentieth Report of the Medical Staff of St. John's Hospital. Submitted at the Annual Meeting, April 4, 1887. Lowell, Mass., 1887.

Fourth Annual Report of the Superintendent of Health of the City of Providence. For the Year ending December 31, 1886. Providence, 1887.

Contributions to the Diagnosis of Yellow Fever. By Augustin M. Fernandez, M.D., Corresponding Member of the Medicochirurgical Academy of Madrid, Spain. 1887. (Reprint.)

Persistent Pain after Abdominal Section. By James B. Hunter, M.D., Surgeon to the Woman's Hospital, New York, Professor of Gynecology in the New York Polyclinic, etc. 1886. (Reprint.)

A Manual of Weights and Measures including Principles of Metrology, etc., with Rules and Tables. By Oscar Oldberg, Pharm. D. Second Edition Revised. Chicago: Published by Chas. J. Johnson. 1887.

Medical Education in the United States; its Defects and the Remedy. Annual Address delivered before the American Academy of Medicine, at Pittsburgh, Pa., October 12, 1886. By R. S. Sutton, A.M., M.D., LL.D., of Pittsburgh, Pa., President of the Academy.

Medical Electricity: a Practical Treatise on the Applications of Electricity to Medicine and Surgery. By Roberts Bartholow, A.M., M.D., LL.D., Professor of Materia Medica, General Therapeutics and Hygiene in the Jefferson Medical College of Philadelphia. Third edition. Enlarged and improved with 110 illustrations. Philadelphia: Lea Brothers & Co. 1887.

## Original Articles.

THIRD ATTACK OF SCARLET FEVER. REMARKS UPON THE RECURRENCE OF ERUPTIVE DISEASES.<sup>1</sup>

BY JAMES B. AYER, M.D.

In December, 1879, Charlie U., at the age of five, was attacked with a severe form of scarlet fever. He was then living in Charlestown, and was attended by Dr. E. J. Forster. His mother tells me that she passed through two severe and undoubted attacks of scarlet fever, at the ages of five and seven, and that one of her brothers was twice treated for the same disease, at ages of ten and twelve.

**First Attack.** Dr. Forster recalls the illness, and says that it was complicated by a submaxillary abscess, and by perforation of both membrana tympani. Special attention was paid to the ears by Dr. Forster, and there was no subsequent deafness. Patient was not as robust after the disease. Subsequently, there is a reliable history of two attacks of measles, with an interval of three years between the attacks.

**Second Attack.** November 25, 1885, I was called to the patient, now eleven years old, for the first time, and found the body covered with a characteristic scarlet rash, which lasted three days, and was not accompanied by constitutional symptoms of any kind, nor followed by desquamation; but was repeated eight weeks later, January 25th, the rash again, lasting three days, and now being accompanied by decided fever, vomiting, pharyngitis, otitis pain, and discharge from the right ear, requiring treatment. Shortly after the subsidence of the rash there was a marked lamellar desquamation, involving the whole body. At the end of three weeks from the beginning of desquamation, there were still a few ragged shreds of cuticle upon the fingers and toes. The rash and desquamation were in every way characteristic of scarlet fever. Hardly had the house been disinfected, when, March 1st, the redness reappeared, again lasted three days, leaving, on the ninth day, a roughness of the skin. This was, I am informed, followed by desquamation. No constitutional symptoms attended the relapse, except a slight fever at the onset, but he was left in a debilitated state, and unable to attend school, partly on account of conjunctivitis and weakness of the ocular muscles of accommodation. After five months' vacation these symptoms disappeared and he returned to school in September, with restored health.

**Third Attack.** A month later, October 3, 1886, while passing Sunday in the suburbs, he complained of headache, and was brought home in a feverish condition. Next morning I found his body broken out with a pink rash, which, in a few hours, spread to the face. At first, I considered the rash of erythematous character (similar to the light-colored rash which generally accompanies his catarrhal colds), but in a few hours it became darker, punctated, and presenting the lobster-red appearance of scarlet fever, accompanied by pruritus and heat of the skin.

The temperature fluctuated between 102° and 101° when I saw him, each morning, but probably rose higher during the latter part of the day. On the fourth day, the fever, which had been high during the preceding night, fell as the rash began to fade, and there was a sudden

(oedematous?) swelling of the upper lip, which disappeared in eight hours.

On the third day, there was vomiting for the first and only time. There was otitis pain, severe enough to waken him from sleep several nights in succession. At times he complained of soreness in the throat in swallowing, but pharyngitis was slight, and there were no other symptoms calling attention to the mucous membrane, or to other organs of the body.

On the ninth day, while desquamation was going on, the rash reappeared for a few hours, during which time I saw him, and found his fauces reddened, and his temperature raised to 100°. Lamellar desquamation continued, and was in every way typical of scarlet fever. At the end of four weeks the body was smooth, but the fingers and toes were still peeling.

At the end of six weeks he was out of doors, and, with the exception of catarrhal colds, accompanied by an erythema of short duration, he has since been well. When I have examined him of late, I have found that his skin is dry, but otherwise normal.

I believe that the best modern authorities, as Thomas<sup>2</sup> and Bauze,<sup>3</sup> would agree in this

## SUMMARY OF THE CASE.

**First attack,** at age of five, severe, involving the skin, mucous membranes, glands, and membrana tympani.

**Second attack,** six years later: Typical skin eruption and desquamation; catarrhal symptoms present, but less marked. Relapse and sequelæ due to debility.

**Third attack,** seven months later: Skin as in second attack; mucous membranes slightly affected; pseudo-relapse. Though the mildest of the three attacks, it was too severe to be classed under the "rudimentary forms" of scarlet fever.

Although obliged to change my diagnosis after watching this attack forty-eight hours, I will repeat that I, at first, felt that the affection was of an erythematous character, known as "false scarlet fever."

The following is Hardy's description of "scarlatiniform erythema": "The eruption appears in the form of bright-red patches, resembling scarlet fever, which soon become darker. These patches are the seat of intense itching. At the end of twenty-four hours the rash disappears, leaving only slight desquamation. The eruption may be prolonged a little, and terminate in a considerable amount of desquamation, which rises in large, epidermic patches, like scarlet fever. The fever is slight or absent, tongue quite natural, throat only slightly reddened; it relapses very frequently."

M. Fercol reports a case in point, where desquamation was marked: "The patient, a young man, was seized with a scarlatiniform rash, following typhoid pneumonia. At the end of eighteen months the rash reappeared, followed by complete desquamation of the whole body. There was no fever. The pseudo-exanthema reproduced itself seven times during the year, always preceded by slight angina, with or without slight fever. The desquamation was always general, beginning in the upper part of the body, and ending in the feet; and, finally, the attacks become chronic and continuous."

Brocq, in the *Journal of Cutaneous and Venereal Diseases* (August, 1885), has an exhaustive paper upon the subject, "Desquamative Scarlatiniform Erythema," the most marked form of *false scarlet fever*, which dis-

<sup>1</sup> Read at the Boston Society for Medical Improvement, April 11, 1887.

<sup>2</sup> Ziemssen's *Cyclopædia*.

<sup>3</sup> Real-Encyclopædie der Gesamten Heilkunde.

ease is of extremely rare occurrence, and is noticed almost exclusively in adults. It is characterized by many symptoms in common with scarlet fever attacks, but has a less severe onset, is accompanied by less fever, and its rash is of longer duration. In short, all of these forms of "false" or "bastard" scarlet fever are evidently skin diseases—not constitutional affections—and not to be classed with the case I have reported.

Evidently, my case does not come under the head of any form of erysipelas or eczema, nor was it a rash due to surgical causes or to drugs, and it only remains to classify it under the head of repeated scarlet fever, provided that it is known that this exanthematous disease occurs more than once.

Formerly, the question, "Does one attack of scarlet fever secure subsequent immunity?" was answered in the affirmative.

In Dr. Copland's Dictionary we read: "Dr. Willan and many others prove the impossibility of a second attack of scarlet fever," but this statement is immediately contradicted by the admission: "There are exceptions to this law, perhaps one in two thousand or three thousand."

Bauze says: "Reliable authorities report a second, and even more attacks, in the same individual."

Thomas collected reports of two hundred cases of a second infection, besides a few of a third, fourth, and even more infections, in the same patient. He quotes Richardson as having experienced scarlet fever three times in his own person, and mentions a case reported by Sir Gilbert Blane, of a young lady who had three undoubted attacks.

William Squire<sup>4</sup> says: "Some persons have two or three attacks, or are liable to scarlet fever whenever they come in contact with it." As high a proportion of recurrence as six per cent. has been reported on good authority. As all careful observers agree with Trousseau that scarlet fever is more variable than any other of the contagious, exanthematous fevers, and as it would be difficult to classify together the severe and the mild forms of the disease, were it not for the fact that they may be equally contagious, it seems to me that there is a much greater danger of overlooking scarlet fever than of mistaking an erythematous rash for it.

There are many interesting points connected with this case:

**Prodromal Rash.** Whether the rash of three days' duration, preceding the second attack, was of erythematous or exanthematous character, cannot be definitely settled, but prodromal rashes may occur. Recently, I reported to this Society the case of a girl, ten years of age, whom I isolated on suspicion of scarlet fever, but dismissed her at the end of five days (when the rash disappeared), with a diagnosis of erythema. Three days later vomiting appeared, quickly followed by a typical attack of scarlet fever.

**Pseudo-Relapse** illustrated in our patient's third attack, when, on the tenth day of the disease, and fifth of desquamation, the rash reappeared for a few hours, accompanied by slight constitutional symptoms.

**True-Relapses** shown in the second attack by rash and desquamation, recurring soon after the disinfection of the house.

**Family Predisposition to Recurrence.** Murchison observed relapses of scarlet fever in two sisters. Triansky was able to establish the fact that, in two of

<sup>4</sup> Quain's Dictionary.

his cases of secondary scarlet fever, both parents had the disease twice, and in a third case, that, at least, the father had been affected twice. It is probably the rule that relapses and repeated attacks are less severe and less typical in character, yet this is not always the case.

#### REMARKS UPON REPEATED ATTACKS OF MEASLES.

The statement of most of the older writers, that susceptibility to measles was destroyed by one attack, has been disproved, and all modern authors agree that the disease has occurred two or three times in the same patient. Atkinson argues that it is illogical to insist upon a diagnosis of *rötheln*, in a doubtful case, solely because the patient has passed through one attack of measles, but has no doubt that many attacks of *rötheln* have been mistaken for measles. An accurate, differential diagnosis between measles and *rötheln* cannot be made. In illustration, I can relate a recent case:

A month ago, I found in my office a young man, twenty-one years of age, whom I had attended twenty-six months before for an undoubted attack of measles. Two days previously his eyes became inflamed, and he woke the following morning, early, with a chill and nausea. He attended to business in the forenoon, was feverish, complained of lassitude, and passed a poor night. When I saw him, the eyes were reddened and the lids greatly swollen, and there was a marked nasal catarrh and a dark-red dotting of the fauces. There was cutaneous hyperæmia of the cheeks, and small, mulberry patches, irregularly round and oval, about the ears and neck. On the body there was a measles-like rash, which was not confluent. During the following four evenings, the temperature rose from one degree to a degree-and-a-half above the normal. The pharyngitis became more marked about the fourth day, when the rash began to fade from the neck and body. The glands of the neck were not painful, and certainly not swollen to any extent.

When the blotches had disappeared and the rash had faded, there still remained the congestion of the cheeks and a pale marbling of the body, which are both natural to him in a state of health.

The mildness of the symptoms, and the short period of invasion suggested *rötheln*, but the catarrhal symptoms, and possibly the rash, favored the diagnosis of measles. The patient himself felt that his symptoms were similar to his first attack of measles, though of much milder form, and I felt it important to disinfect my office (as he had been waiting an hour), and to consider it a case of measles.

I believe that second attacks of measles generally are of a mild form, though it is stated that fatal second attacks occurred among Confederate soldiers in the early part of the late war.

**Varicella.** Curschmann states that this disease has recurred as often as five or six times. He says that while the second attack is generally mild, there are exceptions to the rule, as in the case of Louis XV, of France, who, after passing through an attack of variola in his fourteenth year, died of the same disease in his sixty-fourth. The experience of some physicians in this city, who have seen much of variola, confirms the belief that repeated attacks are not of rare occurrence.

**Varicella.** Thomas says: "A true relapse, that is, a renewed appearance in its totality, as reported by

Cassowitz, I have never seen." According to Trouseau and Canstatt, relapses of varicella are frequent.

*Syphilis.* There are unquestionable instances of second infection. Dr. Jonathan Hutchinson says that, while twenty-five years ago it was taught almost universally that one attack secures immunity from others, he himself has had not a few opportunities for observing the course of second attacks in patients whom he had seen during the first attack. These second attacks, he said, were generally modified.

Bamber asserts that a second attack of the disease will be a modified one, and will be milder the earlier it takes place after the first.

*Erysipelas.* This is a recurrent disease. Pich, in "Heath's Dictionary," says: "A patient who has been once attacked by this disease is more prone to have it again than one who has never suffered—a marked contrast to the diseases we have been considering, where one attack generally confers immunity."

#### A CASE OF LABOR AT EIGHT MONTHS: SHOULDER PRESENTATION, VERSION; ADHERENT PLACENTA. CHILD WITH IMPERFORATE RECTUM: OPERATION, RECOVERY.

BY GEORGE G. HAYWARD, M.D.

Mrs. T., a young and rather delicate woman, under my care for her second gestation. This she was very anxious about, as the first had terminated unfavorably with a miscarriage at about the fifth month, brought about by fright. She became pregnant for the second time in the latter part of May (catamenia ceasing about the 25th, bringing the expected confinement early in March. Her general health had been very good throughout gestation, and she was able to take a proper amount of exercise, and showed her condition very little.

January 24th she was thrown from a sleigh, and not feeling any injury at the time, insisted upon walking home.

Two days later I was called, and found she had been talking the matter over with her friends, and had become very nervous. Rest was enjoined, and small doses of bromide of sodium given at night. No ill results followed, and she was soon able to be about again.

February 4th, she fell upon the sidewalk, and three days later began flowing slightly; this was increased upon movement. Rest was again enjoined, with careful watching, the flowing soon ceased.

February 11th, about noon she began to feel pains in the lower part of the abdomen, and was at first inclined to attribute them to the bowels. In fact, she had a movement of the bowels at about this time. But as the pains continued growing stronger and more frequent, she began to realize that it was probably something more serious. I was not called until about eight in the evening. Pains were at that time every ten to fifteen minutes, and not severe.

Abdominal and vaginal examination combined, revealed the following state of affairs, namely:

A small child, placed obliquely, with its head in mother's left iliac fossa, breech at fundus to the right, back anterior, membranes intact, os admitting two fingers, right shoulder presenting at the brim. Present-

ing part freely movable between the pains. Fetal heart 150, regular.

The patient was now placed upon the left side, with the hope of inducing the head to engage. This, however, failed, and at nine, P.M., the condition of things was not materially altered. The os at that time would admit three fingers. The arm and shoulder presenting.

Fearing that the membranes would soon rupture, rendering version more difficult, and that the arm might be forced down, podalic version was at once determined upon (Braxton Hicks method).

Accordingly, the bladder and rectum having been previously emptied, and a vaginal injection of 1-3000 sublimate given, ether was administered, and the patient brought to the edge of the bed, in the left lateral position, thinking that this would rather facilitate the version. The right hand was introduced into the vagina, antiseptic precautions being fully observed. Three and finally four fingers were introduced within the os, and by so doing raising the presenting part somewhat, and passing behind it. The membranes were ruptured as high as possible, and by the combined method both feet were easily secured, and brought well down into the vagina. The dorsal position was then assumed, and uterine contractions soon followed, and with them came the breech and body, (dorsum anterior). No traction was used.

The arms were easily freed in the ordinary manner. External rotation was complete, the occiput came to the arch, and the head quickly descended into the inferior strait. Here some little difficulty was experienced in flexing the head, owing to the rigidity of the perineum.

The pulsation in the cord up to this time had been good, but it now ceased. Perhaps a minute was lost before extraction by (Smellie's method) could be effected. 9.30 P.M. Preparations for forceps, on the aftercoming head, were made, and had the latter failed, would have been resorted to. The child (female) was asphyxiated. The mucus was expelled from the mouth and nostrils, artificial respiration, blowing in the child's mouth plunging it in hot and cold water alternately, and all the various methods were tried, during the half-hour spent in resuscitating it. The child was then wrapt in a warm blanket and cotton-wool, and placed in a deep basket over the steam-heater. Hot-water bottles were placed at the child's feet and body. And a very even, warm temperature was thus maintained.

On returning to the patient, the placenta was found to be firmly adherent, antiseptic precautions were again taken, and the right hand following the cord was passed up into the uterus, to the attachment of the placenta, which was found to occupy the upper uterine segment a little to the left side. The placenta was carefully detached and brought down at 10.20 P.M.

A vaginal injection 1-3000 sublimate was then given, and two drachms of the fluid extract of ergot, administered. The uterus contracted well, and remained so, and there was very little hemorrhage. The antiseptic method being used the binder and pad were then applied. A little later the patient was given some warm beef tea, and she soon dozed off into a refreshing sleep. An uninterrupted convalescence followed, the temperature never rising above 98.8° nor the pulse above 80.

The milk appeared on the third day, but was thin and watery, and the child refused it. Nursing was

\* Read, by invitation, before the Obstetrical Society of Boston, March 12, 1887.

abandoned, and the breasts were supported and rubbed.

February 12th, the day following the birth, an attempt was made to give the child some little nourishment. Breast milk and goat's were both tried, and rejected, nothing was retained. Later in the day, as no urine or meconium had been passed, an examination was made, and the child was found to have an imperforate rectum. The orifice of the anus was present, and through this the probe passed into a cul-de-sac, the depth of three-quarters of an inch.

Examining still farther, the urethra was not to be found. Dr. Porter was called in consultation, and verified my diagnosis; he advised deferring any operative measures until the next day, and quoted a case in his own practice similar to this, where the urethra could not be found, and subsequently showed itself.

On the next day, February 13th, during my visit, the child passed water from the vaginal orifice. The operation was performed by Dr. Porter in the afternoon, the details of which were kindly given by him, and will appear later on. Three large dejections of meconium immediately followed, and three more during the next twelve hours. All food was retained after the operation, and no farther difficulty presented itself. The bowel was dilated occasionally, and for this purpose the ordinary glove-stretcher proved to be a most useful instrument.

TABLE SHOWING THE FOOD.

Date.	Notes.	Teaspoonfuls.	
		Milk.	Water.
Feb. 12	Breast Milk and Goats tried. Will retain no Food.	....	....
13	Operation.	....	....
13	Goats Milk given. All Food Retained.	3	2
13	Food given every one and one-half hours. Few drops of Brandy added.	3	2
16	.....	3	2
17	Brandy Omitted. Food every two hours.	2	4
18	All Food Retained.	2	4
19	.....	2	4
20	.....	2	4
21	.....	3	5
22	Food given every two hours.	4	6
23	.....	4	6
24	.....	4	6
25	.....	4	6
26	.....	4	6
27	New Goats Milk given.	3	5
28	.....	4	6
Mar. 1	.....	3	5
2	.....	3	5

TABLE SHOWING WEIGHT OF CHILD.

Notes.	Date.	Weight. lb. oz.	Notes.	Date.	Weight. lb. oz.
.....	Feb. 11	4 7	.....	26	5 4
.....	12	.....	.....	27	5 5
Operation } Performed }	13	.....	Bowel Dilated.	28	5 6
Bowel Dilated.	14	4 2	.....	Mar. 1	5 7
Bowel Dilated.	15	4 2	Bowel Dilated.	2	5 5
.....	16	4 4	.....	3	5 6
.....	17	4 6	.....	4	5 7
Bowel Dilated.	18	4 8	.....	5	5 10
.....	19	4 9	Bowel Dilated.	6	5 13
Bowel Dilated.	20	4 12	.....	7	5 13
.....	21	4 13	.....	8	5 13
Bowel Dilated.	22	4 15	.....	9	5 14
.....	23	5 1	.....	10	5 15
.....	24	5 1	.....	11	6 1
.....	25	5 2	.....	12	6 1

Taking into consideration the development of the rectum in the fetus, it seemed to me more proper to

term this variety imperforate rectum, rather than imperforate anus. This view is supported by Holmes<sup>2</sup> and others.

"Cases of imperforate rectum may be divided into two classes, namely, those in which no anus exists, (imperforate anus, properly so-called), and those in which there is an anus leading into a cul-de-sac (imperforate rectum in the narrower sense of the term).

"The former class, (imperforate anus), may be again subdivided into (1) Membranous obstruction of the anus. (2) Complete or partial absence of the rectum. (3) Communication of the rectum with the vagina in the female. (4) Communications with the urinary tract in the male. (5) External communication, or fistula.

"The latter class (imperforate rectum) may be subdivided into (1) Membranous obstruction. (2) Deficiency of the upper portion of the rectum.

"We have now to consider the cases of imperforate rectum in the narrower sense of the term, that is, cases in which the external parts are normal, but the anus leads into a small cul-de-sac, the rectum being totally obstructed above.

"The obstruction of the rectum may be due to a simple membrane stretched across the tube of the intestine, which in other respects is natural; or the upper tube (the rectal cul-de-sac, as it is called), may lay by the side of the lower (the anal cul-de-sac), or behind it; or the rectum may be impervious for a greater or less distance, so that the colon may terminate by a dilated extremity above the pelvis. In rare cases the sigmoid flexure itself, and more or less of the rest of the large intestine, may be absent; but as such infants are usually not viable, the cases present little practical interest. Practically, cases of imperforate rectum may be divided, as above, into two classes, that is, (1) Where the upper cul-de-sac is accessible from the lower. (2) Where it is not.

## INJURIES TO THE BACK IN RAILROAD ACCIDENTS.<sup>1</sup>

BY E. P. GERRY, M.D., JAMAICA PLAIN, MASS.

In calling attention to this subject I am well aware that I can only give it an imperfect glance at this time. I shall divide my subject into topics; (1) The liability, in railroad accidents, of injury to the back. (2) The different ways a passenger may be injured. (3) Ways in which a passenger may perhaps prevent such injuries. (4) Some suggestions on transporting the injured. (5) Some of the injuries to the back received at the recent Roslindale accident. (6) Method of handling such patients in bed. (7) Difficulty of giving a correct prognosis as relates to damages.

(1) The liability and almost probability that a person will receive some injury to his back. To those who know and realize the conditions existing in any railroad accident, and especially that at Roslindale, the wonder is that more well-marked cases of injuries to the back have not presented themselves. The probability of such injuries is well known to the community at large, as are also the serious and sometimes permanent injuries received. The laity have become so impressed with this knowledge that the very heavy

<sup>1</sup> Read before the Norfolk District Medical Society, April 26, 1887.

<sup>2</sup> Holmes's Surgery, pp. 810 and 815.

damages awarded by juries for such injuries have made the expression "railroad spine" almost classical in our language as well as the *bête noir* of the companies themselves. To the injured, any injuries about back, hips or sides, render them fearful that something serious may develop even after years have elapsed. This possibility also opens a large field for the unscrupulous. From my knowledge of the persons injured near Roslindale, I should say that a large proportion received some injuries about the back, most of them probably temporary.

(2) That there are many ways in which a person may be injured, one may well imagine, when he thinks of what takes place, and in how many directions a person may be thrown, and with how many things he may come in contact. He may be thrown the length of the car, perhaps violently upon the floor or against the sides or the top, striking his back against the seats, or perhaps be pinned down by the *débris*. Two of my patients were sitting four seats from the front door, of course facing it. They think they jumped up when the alarm was given. When they came to themselves they found that they were up against the door facing the rear. Another, who was sitting next the rear door, on feeling the jar, rushed out upon the platform. He found his car tipping and saw that the smoking-car, which was behind, was coming upon him. He jumped and luckily escaped the smoker which came down near where he had fallen. His injuries were a comminuted fracture of the tibia and fibula, and a fracture of the astragalus, also a severe injury to the muscles of the lower back causing them to bunch up, resembling a Bologna sausage. The tendency is to jump up, as did another patient, who quickly crouched down in the aisle when he saw the top of the car sailing toward his head.

(3) It is very difficult to instruct a person what he had better do in case of a railroad accident. It is, however, highly important that some proper suggestions be given. It might be well to have an emergency lecture prepared in the most careful manner, and brought to the notice of the travelling public, so that the injuries received shall be reduced to a minimum. One cannot guard against missiles in the shape of flying beams, stoves and seats, but there should be certain simple rules impressed upon the minds of all, which they will act upon almost instinctively. It appears reasonable that if one can keep his place by clinging to his seat, he has the best chance, if nothing strikes him. I know of a case where a passenger was riding in the front part of a smoker. He was seated with his back square against the seat. He received no injury whatever from a rear collision that shook the passengers up and sprained one's back so that the patient laid abed two weeks. It is evident a square seat with the feet upon the rail is the best position to be in for an ordinary accident. One of my patients clung to her seat and although her car was carried into the street, she escaped with very little jarring and shock. The train hands usually have a better chance to see what is coming and may jump, but this is not considered good policy since the use of the Miller Patent platform and Westinghouse air-brake. An old rule among railroad men runs, "Don't jump till you can see the size of the gravel."

Perhaps it might be well to suggest to railroad authorities that the ordinary passenger coach should be provided with poles overhead similar to those seen in

some horse-cars, and such as are, or have been, in use in fast mail-trains, to which the clerks jump and catch hold, thus clearing themselves from the floor in case of derailment, as it is claimed that the trucks usually break up the floor; and then the passenger's attention should be called to the manner of using such poles. The clothing-racks should also be made strong enough to sustain a passenger's weight in case he wishes to use them for a similar purpose. The Roslindale disaster seems to demonstrate that the passengers fared best in the newer and stronger cars, as they usually do in the well-built Pullman. If this is true, railroad authorities should be constantly urged to build their cars as strong as possible consistent with other requirements.

(4) Next, regarding the transportation of the wounded, especially those with injured backs; I wish the good people in the vicinity of an accident, who grab their brandy bottles and rush to the scene, would also bring with them their strongest sheets. A patient could be carried on a sheet by men at the four corners or folded lengthwise and carried by two. It would be well to have the little seat at the end of the car fitted with a locker, containing among other things, narrow sheets, which in that case had better be of drilling or some strong material, and furnished with loops along the sides into which the poles before suggested could be run and thus an excellent stretcher made. Lay the wounded with their heads the highest, and keep them in that position all the time. When two men lift a wounded one, let the taller man be at the head, likewise when using a stretcher. Break step in marching with a wounded person on a stretcher. The cushions make temporary beds for the wounded, and the hair from the seat backs will do to pad up under injured parts.

(5) In speaking of some of the injuries to the back received, I shall include injuries to shoulders and those parts of the sides that are closely connected with the large muscles of the back. Although six of my eight patients received some injury to back or sides, it is confidently expected that all but two, and perhaps all but one, will completely recover. That there was considerable injury to the muscles in all the cases may be seen in the fact that although six weeks have elapsed, they all, with one or two exceptions, still are lame, some of them quite so, notwithstanding that the greatest care has been taken to keep them quiet. Luckily only one received injuries that resulted in serious and characteristic symptoms. Most of them were strains and contusions, somewhat severe, the result of being thrown violently several feet. They were in some cases not appreciated at first; one patient walked home, and then started for the doctor to visit his sisters, before he noticed any trouble himself. Some while they were in bed hardly realized that their back and sides were lame. Sitting up and walking about under careful supervision has in some cases made them much lamer. Some of them for the first ten days complained of chilliness and faintness, which did not appear to result from shock, but seemed to come from the injury to the back, not an unusual occurrence apparently in such cases. It was early ascertained in the patient who has undoubtedly serious injury that such was the case, although when first seen he was suffering from concussion of the brain, with snoring respiration, unconsciousness, etc. Some five or six of the vertebrae were injured, some of them

probably fractured about the cervico-dorsal portion, which is mentioned as one of the regions most frequently the seat of injury, there being two other portions equally liable, namely, the dorso-lumbar and the atlo-axial. The ribs attached to these vertebrae appeared dislocated, there was swelling and tenderness at this spot. Other symptoms were retention of urine, constipation and involuntary priapism when bed-clothes were raised. There was paraplegia, with loss of feeling in both legs, which has since continued, although there appears to be a slight return of feeling in one leg within a few days. In addition, there was a cystitis which was so active that the bladder had to be washed out twice a day for over a week. After the cystitis became better, the retention was followed by incontinence, which still persists. At the very first, there were bright-colored spots on both nates and lower back, which it was difficult to account for. It was thought they were bruises or burns, and they became dark-colored in a week or two, since then there have appeared on both legs similar spots with well-defined edges, whose centres are filled with red streaks. They are supposed to come from some defect of nervous influence due to some lesion of the spinal cord. There has been considerable pain in the back, a sensation of twitching of the muscles, and a feeling as if scissors were opening and shutting.

(6) One of the most important matters in the care of such a patient, is the careful handling which he requires and which in this case he has received from his nurse; who gives the following directions for lifting a person with an injured back: "Place a pillow under the shoulders and a draw or folded sheet under the back and hips, and if there is need a piece of rubber sheeting pinned by safety pins to the bed under the draw-sheet. To move patient to his right side cross the left foot over the right and the left arm across the chest; stand on the right side of the bed and pull the opposite ends of the draw-sheet and pillow slowly toward you, prop the back with pillows. To move him up on the pillows have assistance and lift with the draw-sheet and pillow; if alone, with the hands clasped under the shoulders. To move from one bed to another, place the empty bed lengthwise of the one occupied, and have four persons to lift at the four corners of the sheet, and the draw-sheet. Carry back in the same manner, and remove the soiled sheets which have been used in carrying him by turning him on his side and rolling the sheet lengthwise close to the body and remove by turning him on his back again. To make a good bed, place a comforter on the mattress, then a rubber sheet, then a bolster. Keep in place by pinning the under sheet on all sides to the mattress; over the middle of the bottom sheet place a piece of rubber sheeting, five feet long by three feet wide and over that the draw-sheet, as this is more easily changed than the under-sheet. By pinning securely to the bed with safety-pins wrinkles may be avoided."

(7) In speaking of damages, and the difficult position in which a physician is often placed in his endeavor to do his duty to all concerned, I am well aware of how perplexing a question I am bringing forward. Such questions have troubled many an honest surgeon, and there is little doubt but many a one's judgment in such matters has been questioned by some of his brethren in the profession. It would have been amusing, if it had not been fatiguing, to have answered the multitude of questions which have been asked by the friends

of patients relating to this point: many of them were of such a nature that in order not to be compromising to a physician's judgment, great deliberation would be necessary. In such an accident as that of the Buzzey bridge, it was especially difficult to give answers on account of the large varieties of injuries received. We would call especial attention, however, in this connection, to injuries of the back, for they are the ones that are particularly puzzling. The results of other injuries can usually be correctly prognosticated, but those of the back often render it almost impossible to form a correct judgment. This is often due to the fact that a physician cannot tell just what certain symptoms will lead to, and because he knows that what appears to be the most simple injury may in time develop into the most disastrous condition, in some cases many years after the original injury. It is this that makes railroad companies so fearful of what may develop from accidents, and the community as well is on the *qui vive*, for they feel that an appeal to the courts is often their surest way of gaining the largest damages. It is just here that the value of an honest and educated physician is clearly seen. There is a tendency among many to extract all they can from corporations who have injured them, and we believe that they should be paid every dollar that it is worth, as far as this is possible. It is known that they are often very successful in this, not only in this country but in England, for Mr. Bryant, of Guy's Hospital, told the writer that heavy damages were almost a foregone conclusion after railroad accidents, even if medical men almost demonstrated malingering. I will mention two kinds of malingers, those who carry it on with consummate skill for the purpose of getting as heavy damages as possible, and those who from nervous shock, and especially where the menstrual function is disturbed, or from the uncertainty attending settlement which permeates the homes of such patients even where they do not mean to allow it to influence them. There has been malingering, it is said, in persons who claimed damages for accidents which never happened in connection with the corporations from which such damages are claimed. It often requires the greatest wisdom to detect such imposters. Injuries to the back offer a wide field from the known uncertainty of their results. "Holmes' Surgery" says "that a broken back is known generally to be one of the gravest of accidents. The location of the injury must be considered, remembering that if it be below the level of the second lumbar vertebra, it may be expected that the patient, although the displacement is great, will retain motor power and sensation in his lower extremities and will recover. Should the fracture be through either of the vertebrae in which the terminal portion of the cord, surrounded by the roots of the nerves, is situated, the paraplegia may be partial; although complete the patient may have some hope of recovery. Fractures in the dorsal region are always unfavorable, but more so the higher the fracture to correspond with increased number of intercostal muscles thrown out of action in breathing; in fracture of cervical vertebrae, the surgeon counts only by days how long a patient will live." Such being the result of fractures to the vertebrae the surgeon will be called upon to determine if certain injuries will produce such symptoms as may be expected from hidden fracture or some injury which will not reveal itself for years. All must remember that the honest surgeon may be called

upon to act as a referee between the injured and the corporation at fault; that he will decide according to his best judgment what opinion he will give; that he belongs to neither party, but will see to it as far as his opinion is asked that the injured shall be paid according to their injuries; that he will not be a party to anything but the strictest honesty, and will conduct the business as he would his own, according to the strictest business principles.

## REPORT ON DISEASES OF CHILDREN.

BY T. M. BOTCH, M.D.

### PRIMARY NEPHRITIS IN INFANCY.<sup>1</sup>

THE importance of examining the urine in the early months of life in cases where, although the exact diagnosis of the organ affected is somewhat obscure, yet the group of symptoms representing the disease point elsewhere, rather than to the kidney, and the fact that very little is known about the clinical aspect of renal diseases in infants, in comparison with diseases of other organs, makes the investigations on this subject, by Dr. L. E. Holt, of more than ordinary interest.

Dr. Holt reports twenty-three cases of primary nephritis under the age of two years, and most of them under ten months. Of these, the diagnosis in nineteen cases was without much doubt correct, and in the remaining four probable. In all of these nineteen cases there seemed to be satisfactory evidence that they were independent of infectious diseases, and this opinion takes into consideration, also, the fact that scarlatinal nephritis not infrequently shows itself when the primary disease has been overlooked. Diphtheria, as a primary cause, was also carefully considered in each case. Eleven cases out of the nineteen died, and eight recovered. Autopsies were held in ten of the eleven fatal cases. In the single fatal case without an autopsy, the diagnosis rested principally on scanty urine, with an abundance of casts, a large amount of albumen, dropsy, and death in a comatose condition. In the eight cases of recovery, the diagnosis was made chiefly from the examination of the urine.

It is not to be supposed that the mortality here given of eleven cases out of nineteen represents the real death-rate from these forms of nephritis: the truth, no doubt, is that a great proportion of the milder cases escape notice altogether; and it is a significant fact, also, that in six of the fatal cases the diagnosis was not made until after the autopsy, and that, in most of these cases, the nervous symptoms had been the engrossing ones during life. This fact alone shows how easy it is for even careful diagnosticians to overlook cases of this class, and, no doubt, a large number of them pass under other names, even when fatal, unless autopsies are made.

The symptoms of acute primary nephritis, as a rule, are misleading, and tend to attract the attention to the brain or digestive system, rather than to the kidneys, the diagnosis only being made possible by repeated examinations of the urine, it being fair to say that the urine is seldom examined in infants under ten months of age, on account of the difficulty of obtaining a sufficient amount for analysis, and the possibility, also, of one specimen being comparatively free from abnormal constituents, while a second might show them to be in such abundance as to make the diagnosis quite clearly.

The catheter is, of course, the most reliable means for obtaining the urine for diagnostic purposes, and importance should not be attached to the presence of a few blood-globules, as these will almost always be found.

A study of the cases reported by different writers brings out the fact that acute nephritis in infancy may declare itself by unusual symptoms, and by an absence of symptoms which are usually considered to point towards renal disease. Thus, according to Dr. Holt, dropsy was not found to be a prominent symptom: it was noted in only five cases, and in one of these was not present till late in the disease. The quantity of urine passed is a symptom of which much is made in adult cases, and, when taken in connection with the specific gravity, it is very valuable for diagnosis. In infants, the difficulty in collecting the entire amount for the twenty-four hours' urine are very great, and it is especially significant that in only seven cases is it stated that the urine was so scanty as to attract attention. In five cases, the disease was ushered in by gastro-intestinal symptoms. Vomiting was present with more or less frequency throughout the disease in four cases. In six cases, some looseness of the bowels existed. Fever is mentioned in ten cases: in two cases the pyrexia was remarkably great, and in five cases it was high for a period varying from three days to four weeks. The pulse presented nothing of special interest. It was usually rapid with the high temperature, and weak only towards the close. The respiration was peculiar in five cases: in one there was very marked irregularity; in two it was very rapid, independently of high fever or pulmonary symptoms; in two more there was decided dyspnea: these symptoms were probably uramic. Nervous symptoms were prominent in almost every case; in several they engrossed the attention of the attendants. Convulsions were present in five cases, usually at the onset, or, more correctly, this was the first symptom noticed. This emphasizes the importance of the examination of the urine in every case of convulsions in children. An extreme degree of restlessness and irritability was seen in several other cases where convulsions seemed imminent, but did not occur. In some, high fever accompanied these symptoms, but in others they were independent of this influence. In three cases marked drowsiness existed, but in only one case was there complete coma.

The other nervous symptoms present were delirium, rigidity of the muscles of the neck, and irregular and contracted pupils. In two cases there was, from the very beginning, marked prostration, without variation in temperature or other striking symptoms; and, in one case, this, with the very rapid respiration, were the really only positive symptoms, and yet the case proved fatal in three days. The quantity of urine obtained for examination was nearly always so small, that but few observations upon the specific gravity could be made. Casts in abundance were present in nine cases. In three of these cases the urine was taken from the bladder *post-mortem*, a fact, which however, does not invalidate the significance of the casts. Casts were found in every instance, except one, in which a microscopical examination was stated to have been made, and in this case it was examined but once; but so small a quantity of urine was obtained, that the result could hardly be considered conclusive that they were not present. Albumen was present in large amount in thirteen cases: in four of these the urine was taken from the bladder *post-mortem*.

<sup>1</sup> Archiv. of Pediatrics, January, 1887.

[Delafield, from a large number of observations, has ceased to attach any importance to a small amount of post-mortem albumen, supposing that it comes from the epithelium of the bladder. The presence of casts, however, is as positive evidence in post-mortem urine as in that passed during life, and the same may be said of albumen, when present in large quantities.]

The following cases were of especial interest, and were patients of Dr. Holt's:

CASE I. Male, seven months old. Attack sudden, without apparent cause.

January 16, 1886. High fever and marked restlessness. Tubercular history on father's side. Temperature, at noon, 104° F., pulse 160, respirations 40. No evidence of disease in chest or elsewhere. Antipyrine, six grains in three doses, given within an hour. 5 p. m. Quiet and sleeping; temperature 101°. 9 p. m. Temperature 104.5°, and remained high, excepting when temporarily reduced by antipyrine, until death. The infant would strike his head, tear at his mouth, and throw himself violently about. The bowels were rather loose; no albumen found in urine. General appearance serious, but took breast well until June 20th. After that not so well, and sometimes not at all.

January 23d. For the first time, fine râles were heard on both sides of the chest, but no dulness or difficulty in breathing, the respirations being only 40. During the next two days the infant became drowsy, and the general symptoms indicated prostration. He became very pale, with, at times, cyanosis of face. Pulse rapid and thready; peripheral circulation poor. A marked cough now first appeared, January 25th.

On the thirteenth day, January 29th, decided cerebral symptoms were present: The abdomen was retracted, head thrown back, and neck rigid; pupils small, and responding sluggishly to light; respirations shallow, and, at times, irregular; drowsiness almost continuous; râles in lungs more abundant, but no evidence of consolidation; no vomiting, and bowels still loose. In the next four or five days, there were almost continuous automatic movements of the hands and feet.

February 4th. There was diminished resonance in both backs, and, for the first time, apex outside of the nipple, and systolic murmur loudest at base of heart. Urine, up to this time, passed freely. Now less free, with a specific gravity of 1013. Albumen in large amount; granular, hyaline, and epithelial casts numerous; pus and blood-cells. Died, comatose, February 7th.

The autopsy revealed nothing of primary pathological importance in the brain or its membranes (tubercle was carefully looked for), nor in the heart, liver, or spleen. There was broncho-pneumonia in the lungs, corresponding to the physical signs which developed four days before death, and which, evidently, was not the cause of the general symptoms which occurred early in, and during the sickness. The kidneys were nearly twice their normal size. Their weight, together, two and three-quarter ounces; consistency succulent. Capsule non-adherent; surface closely studded with yellowish masses, slightly raised above the surface, from a pin's head to a pea in size. A few small hemorrhages beneath the capsule. Between the yellow nodules the surface was of a grayish-white color, and there was general cloudy swelling. On section, the yellowish patches were found scattered through the organ, in some places following the line of the tubes, in others forming irregular masses in the cortex

and the columns of Bertini. The largest were a fourth of an inch in diameter, situated at the apex of the pyramids, and two or three contained creamy pus. Striations of urates in some of the tubes, and a few hemorrhagic spots completed the gross changes present. There was slight congestion of the pelvis, but no other abnormal appearances. The ureters, bladder, and testicles were perfectly healthy. Dr. Francis Delafield examined the specimen microscopically, and reported that it seemed to present the lesions of an acute interstitial nephritis, with the production of pus. The pus-cells were infiltrated in the stroma between the tubes, in small numbers in some places, in large numbers in others, but no abscesses, properly speaking, were seen. There were, also, changes in the tubes, necrosis of the epithelium, and cast matter. No bacteria were found.

CASE II. Male, seven months old. Healthy parents. Taken suddenly ill on Saturday evening, and died on the following Tuesday morning. The symptoms were crying, restlessness. Respirations sixty per minute; temperature never rose above 99° F.; pulse not especially frequent. Vomiting present in the beginning, but not severe, and did not continue; bowels regular. No cerebral symptoms, no paralysis, no convulsions; no physical signs of disease in the heart, lungs, or abdomen. The urine was passed moderately freely, and was examined once, with negative results. There were no positive symptoms, except a steadily-increasing weakness and rapid respirations. It died quietly and easily. The autopsy showed the organs to be anæmic, but otherwise normal, with the exception of the kidneys, which, microscopically, showed marked congestion, and, under the microscope, well-marked parenchymatous nephritis, with crystals of urates in the tubes and pelvis. The urine found in the bladder, on examination, contained so much albumen as almost to solidify on boiling, and numerous casts were seen under the microscope. It is worthy of mention that, during the last months of the infant's life, transient attacks of marked pallor were noticed while it was sleeping.

A third case, of a girl, three and one-half months old, was diagnosed as acute nephritis, and recovered. The history of the case is of a good deal of interest, and seems worthy of being reported: The infant was admitted to the New York Infant Asylum, August 17th, with pertussis, for which a two per cent. solution of resorcin was applied by a swab to the throat, five times a day.

September 23d. She was noticed to be very drowsy, sleeping much of the time, and the mother reported the child's urine to be green in color.

An examination, on September 25th, showed the urine to be olive-green, and give a decided reaction for albumen. The first marked elevation of temperature was noticed at this date (103° F.). The infant continued in the same dull, stupid condition, taking the breast poorly. The discharges were a little greenish, but not frequent, and there was no vomiting.

September 27th. Six ounces of urine were obtained, which contained a large amount of albumen. Hyaline and epithelial casts quite abundant; leucocytes and many uric-acid crystals; reaction strongly acid. The resorcin was discontinued, as being a possible factor in the disease, although, in fifteen or twenty other cases treated in this way, urine of this character had not been observed.

September 29th. Temperature rising irregularly to 101° or 102°, pulse rapid and weak, respiration, at

times, irregular, and always rapid. No enlargement of liver or spleen; albumen and uric acid as before, but no casts. There was very feeble breathing over the left upper lobe, and high-pitched, with a few râles. A diagnosis of pulmonary collapse was made, and stimulants, oxygen, and acetate of potash were given. The urine was thus kept alkaline, and the albumen became less, and the uric acid disappeared, the temperature also rarely reaching 101° F. Still, the pulse and respiration were frequently irregular, the abdomen was tympanitic, and the head was drawn back much of the time.

October 9th. The albumen was reduced to a mere trace, the nervous symptoms subsided, and the case went on to steady convalescence.

Dr. Holt states that chronic nephritis scarcely exists in infancy, but that the acute variety, especially in its lighter forms, is not rare, so that the urine should be examined in every case of convulsions, unusual prostration occurring in the course of other diseases, persistent vomiting, without apparent cause, in the stomach, rapid or irregular respiration, without any evidence of pulmonary disease, or sudden high temperature, without evidence of local disease.

#### INTERNAL SUPPURATION, WITHOUT FEVER.<sup>2</sup>

Dr. West reports a number of rare cases illustrating this point, and among them the following ones, occurring in children:

(1) *Suppurative Pericarditis*. Boy, aged sixteen. Pericardium twice tapped and laid open; complete recovery. Temperature, neither before or after the operation, was raised above the normal.

(2) *Suppurative Peritonitis*. Girl, aged ten years. Case very acute; abdomen opened, and foetid pus evacuated. Patient did not rally after operation, and the autopsy showed a primary peritonitis. Temperature not elevated throughout the disease.

(3) *Empyema*. Boy, thirteen years old. Case tapped twice, and twenty-four ounces removed; afterwards, ten ounces. The chest opened freely; recovery. No elevation of temperature at any time. In the last case, the pus formed very rapidly. Collapse was absent in all the cases.

#### SCARLET FEVER.<sup>3</sup>

Bokai<sup>4</sup> has discussed the various forms of inflammation of the joints occurring during the course of scarlet fever. He divides them into two classes, serous and purulent. In serous inflammation there may be either an acute or sub-acute and chronic course ending in white swelling of the joint, and in two cases the formation of pus was noticed. Two cases of purulent inflammation were noticed and were considered as symptomatic of pyæmia.

Julius Pollock<sup>5</sup> has published a case presenting unusual symptoms. Twenty days after the beginning of an attack of scarlet fever, there appeared swelling of the cervical glands and over the surface of the body a rash like a non-scaly psoriasis, which ultimately became dark in color. Acute cystitis supervened with swelling of the whole of the left leg below the knee, due to thrombosis of the femoral vein. The patient recovered completely.

Jabowitsch<sup>6</sup> has reviewed the present state of our knowledge as regards scarlatinal uræmia in children. Uræmic symptoms in his cases began either with a marked diminution in the amount of urine excreted, or with amblyopia and headache.

#### CEREBRO-SPINAL MENINGITIS.<sup>7</sup>

Under the name of cerebro-spinal meningitis, Henech describes a particular form of simple non-tuberculous meningitis which is of more frequent occurrence in childhood than is usually admitted. Its study is of the greatest importance from a diagnostic point of view, and its characteristic consists not only in its long duration but also in its alternate periods of improvement and deterioration, which leave the physician in suspense for a long time. The usual course of the disease is as follows: children who have been in apparent health are suddenly seized with high fever, which continues several days with morning remissions, with intense headache, vomiting, pain along the nucha and in rare cases contractures of the muscles of the extremities and cutaneous hyperæsthesia. At the end of about two weeks the fever ceases, the other symptoms disappear and everything seems to go on favorably with the exception that the pain in the nucha continues and indicates that the trouble still persists. After an interval of from one to several days, the fever reappears, the general condition becomes very bad and the pains in the head and nucha resume their original intensity. These remissions and exacerbations may be repeated several times in the course of the same week, leaving the physician in doubt as to the accuracy of his diagnosis. Tuberculous meningitis is taken into consideration, but after eight or ten weeks or even longer, the patient finally recovers. The true nature of the disease is not yet fully known. Treatment has no influence on its progress, and this point is particularly insisted upon by Henech, who has never seen a case terminate fatally. From the standpoint of pathological anatomy it would appear from the symptoms that the disease was one which involved the meninges of the brain, and, to a lesser degree, those of the spinal cord. The etiology of these cases is also very obscure, and their relation to epidemic cerebro-spinal meningitis not known. The latter disease may present the same symptoms, but it is believed that it would not be possible to consider all the cases, which present the phenomena described, as cases of infectious cerebro-spinal meningitis. The disease does not always follow this slow course. In connection with this paper, the author describes the "symptom of Kernig," which he has observed in several patients with meningitis; it consists in a contracture of the flexor muscles of the knee-joint while the thigh is flexed upon the pelvis.

#### PERIOD OF INFECTION IN CONTAGIOUS DISEASES.<sup>8</sup>

In connection with the investigations made by the British Medical Association, Ransome has reported the following data in a paper on this subject:

Measles was shown to be infectious in five cases before the appearance of the rash; in two cases at least two days before and in one three days before; in one also four days before the rash came out. Scarlet fever was communicated in four cases from twelve to twenty-four hours before the beginning of the rash.

<sup>1</sup> British Medical Journal, April 2, 1887. Archiv. Podiat., April, 1887.

<sup>2</sup> London Medical Record, March, 1887.

<sup>3</sup> Foster Med. Chir. Presse, November 14, 1885.

<sup>4</sup> Lancet, March 6, 1886.

<sup>5</sup> Archiv. für Kinderheilk., Band. viii, Heft. 2.

<sup>6</sup> Charité Annalen, xi, 1886. Archiv. Podiat., April, 1887.

<sup>7</sup> British Med. Jour., January 29, 1887.

Mumps was conveyed in one case one day before the swelling of the gland appeared. Mumps was also found to be communicated by the patient two weeks after cessation of the fever, or three in all: measles thirty-one days after the invasion; scarlet fever four to seven weeks, longer in case of complication such as otitis, suppurating gland, etc. Diphtheria in one case was seen to be directly infectious after six weeks.

#### INCUBATION AND TRANSMISSION OF EPIDEMIC PAROTITIS.<sup>9</sup>

Three cases are reported by Dr. Roth<sup>10</sup> which aid in establishing the time of incubation and the manner of transmission of mumps: the period of incubation in all three cases was eighteen days. The first case was caused by actual contact, in the second the infectious material was apparently brought by the physician himself from a patient in the hospital to another patient in his home. In the third case the patient used the same bedding which had previously been used by a patient with parotitis.

### Reports of Societies.

#### BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

APRIL 11, 1887, the President, DR. O. F. WADSWORTH, in the chair.

DR. JAMES B. AYER read a paper having for its title:

#### THIRD ATTACK OF SCARLET FEVER, WITH REMARKS ON THE RECURRENCE OF ERUPTIVE DISEASES.<sup>1</sup>

DR. C. E. STEDMAN asked if other inmates of the household were infected from this case, to which question Dr. Ayer replied that there were no unprotected members of the household. Dr. Stedman mentioned some patients who had an ill-defined eruption, resembling scarlet fever, and slight sore throat, there being a child in the neighborhood with scarlet fever. He could not feel sure about these cases, but had isolated them, and they might be second attacks. Every one knows that measles and röteln recur. He had known a baby to infect all the other children in a family with measles, and to have a second attack as the others were getting well.

DR. C. P. PUTNAM said that he had never happened to see a second attack of any one of the eruptive diseases. He, however, not only believes that they do recur, but he knows of a case, not his own, in which there had been a third attack of scarlet fever, with no possibility of question. He had, that day, seen a second attack of mumps. Although a second attack of whooping-cough is rare, he had met with a case of it in an adult, who was said to have had the disease as a child. The chief question of interest in this connection is not: why does the disease ever recur, but rather: why does it not always do so upon exposure. The first man who made up his mind that one attack commonly protects against another, was certainly a greater observer than he who first decided that second

attacks sometimes take place. We do not know more than the fact that one attack of certain diseases commonly, but not always, protects against a second. It is possible that the first attack commonly uses up all of the material in the system proper for the nutrition of a particular germ, but that sometimes some of it escapes.

DR. T. M. ROTCH remarked that, although the recurrence of scarlet fever is known to take place, yet this case of Dr. Ayer's is of unusual interest and rarity. He also said that while allowing that there was a distinct disease, röteln, he believed that the diagnosis of röteln was often made on insufficient evidence, owing to the symptomatology of the disease not yet having been clearly settled; different physicians enumerating different symptoms as diagnostic of röteln, where, on careful investigation, it seemed to him that these very symptoms had nothing to do with the disease röteln, but were simply occurring accidentally in the course of the special case.

DR. RUSSELL STURGIS mentioned cases reported at Philadelphia two years ago as röteln, in which there had been sore throat at night, without prodromal symptoms, and the next day a measles-like eruption. This was during an epidemic of measles.

DR. JAMES AYER mentioned a case which he had supposed to be one of röteln, the symptoms being unlike those of measles, although the eruption rather resembled it, the absence of fever being especially noted. This case occurred at a time when other men were reporting cases of röteln. He believes that the incubation period of röteln is longer than that of either scarlet fever or measles.

DR. PUTNAM said that the final test is the contagion of measles or scarlet fever from these attacks of röteln, for it is well known that the contagion from mild cases may give rise to severe ones. The diagnosis may be in doubt at first, yet he has had but two cases in which he could not make it at some stage, and he has never known röteln to give rise to either of the other diseases. He had seen cases in which the eruption was so like that of scarlet fever, that, judging from the eruption alone, he would not have been able to say that the child was not sick with scarlet fever; but there was no perceptible sore throat, and the rash disappeared on the second day, to be followed, after a period of exactly fourteen days, by an outbreak in the family of what was clearly röteln. The typical eruption of röteln has larger spots than that of measles. They are redder, flatter, and do not begin so decidedly on the face. If the eruption lasts over sixty hours, or better, say forty-eight hours, he should hesitate to call the case röteln. The incubation period is precisely two weeks.

DR. FRANCIS MINOT said that he was surprised that no one had called attention to a glandular swelling in the neck behind the ear as occurring very often in röteln.

DR. J. H. MCCOLLOM said in reply to a question, that he had seen three unquestionable cases of recurrent small-pox although second attacks are doubtless comparatively rare. One was an intelligent man of about forty-five; who twenty-five years before had had small-pox as was shown by his description of it, and also by his being marked. One was a woman of sixty who was not reported until the disease was well advanced. When she recovered, however, it was easy to distinguish between the old

<sup>1</sup> See page 465 of the Journal.

<sup>9</sup> Archiv. Pediat., April, 1887.

<sup>10</sup> Münchener Med. Wochenschr., 1886, No. 20.

pale pits and the new red ones. The third was a man who had had small-pox in infancy and who had a second attack a short time ago. It is reported in Aitken's practice that a certain physician always had fever and the characteristic eruption every time that he attended a case of small-pox.

Dr. McCollom expressed surprise at the remark of Thomas in "Ziemssen's Cyclopædia," that he had never seen an adult with varicella, and also at the remark by the same author, that the constitutional disturbance in most cases of this disease is comparatively slight. He said that he himself had seen a great number of cases of varicella in adults; and also that he had never seen a case of varicella, where there was not a greater or less amount of constitutional disturbance. In making the differential diagnosis we should never be guided by the severity of constitutional symptoms for a mild case of small-pox may be ushered in by very little constitutional disturbance, and, on the other hand, we may have a case of varicella in which there is headache, pain in the back, and a certain amount of nausea, which the authorities have taught us to believe is present only in cases of small-pox. The appearance of the eruption is the only thing upon which we can make a positive diagnosis.

He had seen four or five cases of measles in which the disease had recurred in two or three years. One was a child of two years, who had it very severely; and two years later had it moderately, this time communicating it to his brother and sister. He had never himself seen a second attack of scarlet fever, but thinks that there can be no doubt about Dr. Ayer's case, and believes that such cases happen more often than is generally supposed.

He had no doubt but that these diseases are more likely to recur during an epidemic.

Dr. STEDMAN spoke of the eruptive diseases of childhood as being milder in his experience than during the earlier years of his practice. Before 1870 he had met with greater mortality. He had then known of schools being closed because of the prevalence of these diseases. It is possible that in time, as the soil for them becomes less fresh, that they will be generally milder.

Dr. F. C. SHATTUCK said that ten years ago, when he had a dispensary district he saw a sufficient number of bad cases of scarlet fever such as now he did not encounter in a different class of persons. He then suggested that there are some reasons for thinking that this, in common with other infectious diseases which have existed for a long time, may have a gradual tendency to run out. There seems to be no doubt that syphilis is a much milder disease than it was formerly; it certainly does not appear in the virulent form which history tells us it assumed shortly after the discovery of America. The ravages which syphilis produced after its introduction into the Sandwich Islands, and the thirty thousand deaths which measles caused in the Fiji Islands not many years ago, suggest that civilized people, so called, gradually acquire a relative immunity against infectious diseases.

It does not seem far-fetched to suppose that the change in the organism, whatever it may be, which renders an individual insusceptible to a second attack of some particular disease, may, in the course of time, be transmitted in a measure to descendants, and result in a modified form of the disease. There can be no question that the treatment of infectious, and, indeed,

of all diseases, is, on the whole, much more rational than it was; and this factor must have its due weight.

Dr. JAMES AYER remembered that in making the diagnosis of chicken-pox, he had been in the habit of attaching great importance to the shape of the vesicle; which is often triangular or irregularly square, especially upon the back of the neck. He would like to have Dr. McCollom's opinion as to this point.

Dr. McCollom said that he thought it a valuable diagnostic mark, and he also alluded to the great difference in the size of vesicles in a given case of chicken-pox, and called attention to the fact that the vesicle of varicella can be very easily ruptured, and when ruptured, empties itself completely, or in other words, the vesicle of varicella is unilocular while that of small-pox is multilocular. One should bear in mind that in variola the deeper tissues of the skin, and in varicella, the more superficial are involved.

#### PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

MARCH 12, 1887, the President, Dr. WILLIAM L. RICHARDSON, in the chair.

Dr. G. G. HAYWARD reported, by invitation,

**A CASE OF LABOR AT EIGHT MONTHS: SHOULDER PRESENTATION, VERSION: ADHERENT PLACENTA. CHILD WITH IMPERFORATE RECTUM: OPERATION, RECOVERY.<sup>1</sup>**

Dr. C. B. PORTER saw the infant first twenty-one hours after its birth; at that time no urine and no feces had been passed. The most careful examination with small flexible bougies failed to find the meatus. The anal orifice was present, but on passing a large probe was found to terminate about one inch above the orifice in a cul-de-sac. The bearing-down efforts of the child were very feeble, and operative measures were advised to be postponed for twenty-four hours, in the hope that the rectal cul-de-sac would become more prominent, and the bearing-down efforts more vigorous. The wisdom of this course was fully demonstrated on the following day when a second examination was made. In the meantime the child had passed urine. Stretching the anal cul-de-sac and watching carefully it was seen that there was at varying intervals a rather uncertain bulging which seemed as though it might be the rectal cul-de-sac pressed down by the straining of the child.

**Operation:** A sharp-pointed, small, grooved needle was pushed from the apex of the anal cul-de-sac upwards as near as possible towards the centre of the prominence of the superior cul-de-sac. No fluid followed, but the point of the needle moved about as though in a cavity. A pair of sharp-pointed scissors was run along the groove of the needle and the blades opened, when alongside of them the meconium very thick and tarry followed. The child had three discharges within a short time, each stimulated by the introduction of the little finger. Dr. Porter saw the child twice after the operation, and each time dilated the passage by the introduction of the little finger; but there was no marked tendency to contraction. The vomiting which had persisted up to the time of the operation was completely relieved.

<sup>1</sup> See page 467 of this number of the Journal.

The points tending to the successful issue in this case, which was unfavorable from the fact that it was an eight months' child, were:

*First:* The delay for expulsive efforts to become more vigorous, to give an indication as to the location of the rectal pouch.

*Second:* The use of a small, sharp, grooved needle, instead of a trocar or knife, which would penetrate more easily a pouch which was not fully distended and not forced downwards by violent, expulsive efforts as is sometimes the case.

*Third:* The use of sharp-pointed scissors instead of the knife, as thereby not a drop of blood was lost and the size of the rent in the upper cul-de-sac was made to exactly correspond with the one in the lower, which could not have been as accurately affected by the knife.

There is always more or less danger of subsequent cicatricial contraction; but the amount cannot be foretold, and in this case there has been so little that it is not probable that any trouble will result therefrom.

Dr. STRONG asked if colotomy could not be performed as a temporary expedient to relieve the child, and whether later the blind intestinal end would not pouch down, so as to be reached *per anum*.

Dr. PORTER replied, that inguinal colotomy might be performed for relief of the symptom of obstruction, but not with the hope that the rectal cul-de-sac would later become more prominent. But with an opening in the groin it might be possible to introduce a sound or some stiff instrument through the opening downwards into the rectal pouch and make it prominent in the region of the anal cul-de-sac, and thereby enable the surgeon to complete the artificial anus at that point and subsequently close the inguinal one.

Dr. SINCLAIR inquired if imperforate rectum was found more frequently in girls than in boys.

Dr. PORTER replied that he recalled at the moment only three cases in which he positively remembered the sex, and two of these were girls and one a boy. Dr. Porter subsequently contributed the following addition to his remarks on this subject:

In the catalogue of the Warren Museum the late Prof. J. B. S. Jackson makes this statement as the result of his examination and observation of post-mortem specimens of imperforate rectum and anus.

"In cases of imperforate anus, an opening into the 'bladder' or 'urethra' is occasionally reported; but so far as I have seen an opening into the membranous portion of the urethra is always found in an ordinary case of imperforate anus in the male subject. In extraordinary cases or where there is great malformation of the internal organs the opening may be into the fundus of the bladder, or there may be a great deficiency of the large intestine, and no opening at all. The opening is usually small but easily demonstrated, if the rectum is inflated under water."

"When the anus is imperforate in the female, the rectum opens into the vagina; and this opening seems to correspond to that in the male subject, the membranous portion of the urethra being the genital portion of the urinary canal."

In an analysis, by Mr. Curling, of one hundred cases of "Congenital Imperfections of the Rectum," with reference to an operation,<sup>2</sup> he gives twenty-six in which the intestine opened into the urethra or neck of

the bladder, and he remarks that there "were very probably more; as the opening is sometimes so minute as to prevent the free escape of meconium during life."

In an analysis of 104 cases of "Imperforate Anus and Rectum," by Dr. George H. Gay,<sup>3</sup> he states that there was an operation in 77 cases: cures 25; deaths 52.

Dr. GREEN had seen two cases of imperforate rectum in his Dispensary Obstetric Clinic. One case was in a boy, and there was a fistulous connection with either the bladder or the urethra. Dr. Beach operated on this case at the Massachusetts General Hospital and established an opening *per anum*; but the child died in thirty-six hours. The second case was in a girl, and was successfully operated on by Dr. Gay at the City Hospital: the infant passed feces easily for several days, and undoubtedly would have lived, with proper care; but it was neglected by the family and pined away.

Apart, however, from the presence and successful treatment of imperforate rectum, Dr. Hayward's case was one of great interest; not only as a triumph for antiseptic obstetrics, with speedy, non-febrile recovery after version and manual removal of an adherent placenta, but also on account of the successful care of a premature child.

The great desideratum in the care of the premature infant is the maintenance of bodily heat. This may often be accomplished by hot-water bottles and heaters; but the most effective apparatus is the hot-water cradle, or the convense of Tarnier. When these cannot be obtained, a very good substitute can be improvised by the use of two tin pans or foot-tubs of such relative size that one can be placed in the other and surrounded by hot water, as described by Worcester in his Manual on "Monthly Nursing," page 212.

Dr. W. L. RICHARDSON said the case seemed one of exceptional interest. The fact that the temperature during the convalescence never exceeded 99° bore testimony to the efficient manner in which the antiseptic method of treating such cases had been carried out. He agreed with Dr. Reynolds that the great majority of cases of so-called adherent placenta were not cases in which there was any morbid attachment of the placenta to the uterine wall. Cases in which such attachment exists are rare, in comparison with the number of cases reported; but they do occur, and oftentimes are extremely difficult to manage. In cases where a patient has had, during her pregnancy, a threatening miscarriage with hemorrhage, it is very common to find the placenta morbidly adherent over the area, where, evidently, the previous placental separation had taken place. The partial separation, with its accompanying hemorrhage, seems to set up an inflammatory action sufficient to cause an adhesion. The necessity of keeping a premature child sufficiently warm is also well illustrated in the result of this case. The popular saying, that seven months' children live, while eight months' die, is, unfortunately, entitled to some weight, if we only look at statistics. The reason, however, is to be found in the neglect to properly keep up the animal heat, the loss of which is badly borne by premature children. A seven months' child is, of itself, a curiosity, and is most carefully watched, while an eight months' child so nearly resembles one at full term, that, after the first few days, the novelty is over,

<sup>2</sup> Med. Chir. Trans., Vol. xliii, p. 276.

<sup>3</sup> Boston Med. and Surg. Jour., Vol. lvi, p. 397.

and the child is very apt to die from a neglect to keep it sufficiently warm.

An eight months' child requires just a much care for four weeks, as a seven months' child does for eight. The neglect of such precaution is apt to allow of a loss of animal heat, and a convulsion not infrequently closes the scene. Since the introduction of so-called "incubators" at the Boston Lying-in Hospital, the mortality among the premature babies has very decidedly improved. The result of the operation by Dr. Porter was most successful. At the Lying-in Hospital, there have been five cases of imperforate rectum in about 3,500 births. Four of the children were males, and one was female. One of the cases was still-born, and was the result of a pregnancy complicated with hydramnios. Three of the babies were operated upon by surgeons. Two of these lived twenty-four hours, and one for three days after the operation. In one case the malformation was not operated upon, the child dying on the third day. In the three cases which were operated upon, the babies all presented symptoms of intestinal obstruction, such as vomiting, colicky pains, and evident distress, with abdominal bearing-down efforts. These symptoms were at once relieved by the operation. The case which died without any operation showed no symptoms of any intestinal obstruction.

Dr. SINCLAIR had seen several cases in which, on attempting to empty the uterus *post partum* on account of hemorrhage, the placenta was found adherent and sometimes had to be removed piecemeal. In Sir James Simpson's Edinburgh collection is a fine specimen of adherent placenta, presented to the museum by the patient's husband, as a warning against the practice of pulling on the cord by midwives. Calcareous placenta are not necessarily adherent; but the children in such cases often die in utero on account of impaired nutrition.

Dr. BLAKE said it was not uncommon to find degenerative changes and calcareous deposits in the placenta, with adhesions in some cases. In one case the connection was very intimate, of a fibroid or cord-like nature.

#### THE SURGICAL TREATMENT OF UMBILICAL HÆMORRHAGE IN THE NEW-BORN.

Dr. REYNOLDS inquired if there were any peculiarities in the technique of the surgical treatment of hemorrhage from the umbilicus in the new-born, referring to a case with hemorrhagic diathesis, which Dr. Porter had treated successfully.

Dr. PORTER replied that it was well recognized that, in cases of hæmatophilia, all cut, wounded, or abraded surfaces bleed; that, in this case, the cord was transfixed cratically at the umbilicus by two large glovers' needles, and an ordinary silk ligature tied around and behind them, the surface dusted with iodoform, a pad of borated absorbent cotton placed over them, and the whole held in place by a broad band of adhesive plaster, which nearly encircled the infant's waist. There was complete arrest of the bleeding for twenty-four hours, when the ligature commenced to cut through, and from the cut surface the blood to ooze.

The ligature was removed, the needles readjusted, and a narrow piece of ordinary cotton bandage, twisted into a cord, and tied behind the needles just sufficiently tight to control the bleeding. This cord of bandage was so soft and broad that it did not cut, and was left

in place for nearly a week, and there was no subsequent bleeding, the umbilical cicatrix forming naturally. During the local treatment by ligature, the infant was medically treated by Dr. W. L. Richardson, the attending physician, by large and frequent doses of tinct. ferri chlor. The child recovered. It seemed to the speaker that the successful issue was due to two causes: the use of a narrow, twisted cotton bandage, as the ligature under the transfixing needles, and the free exhibition of iron.

#### NORFOLK DISTRICT MEDICAL SOCIETY.

S. A. POTTER, M.D., SECRETARY.

MEETING, April 26, 1887, the President, Dr. WILLIAM P. BOLLES, in the chair.

#### THE ROSLINDALE DISASTER.

Dr. C. W. SPARHAWK spoke upon

#### THE NATURE OF THE INJURIES.

The external injuries were due chiefly to bruising and crushing. The number of such wounds upon a single body was often surprising. It was a noticeable fact that patients often failed at first to refer to injuries of very serious character which appeared later, so that a person's assertion that he was not wounded, or but slightly, was of no value whatever without a complete physical examination. External wounds have not healed as satisfactorily as is usual, and in some cases owing to the imperfect early dressings, and the depth of the crushing, wounds had to be opened and allowed to heal from the bottom. Internal injuries were very obscure. Most of the patients suffered about the ribs or spine. There were fractures of the ribs near the vertebrae, and injuries to the costal cartilages.

Brain symptoms, as vertigo, impairment of the memory, disordered mental action, occurred chiefly in the aged.

Nervous symptoms were very prominent in the majority of patients, and took the form usually of "nervousness" or emotional irritability. Those without serious injury appeared to suffer the most from this cause. The menstrual function was affected in many. As a rule the gravity of the cases was underrated.

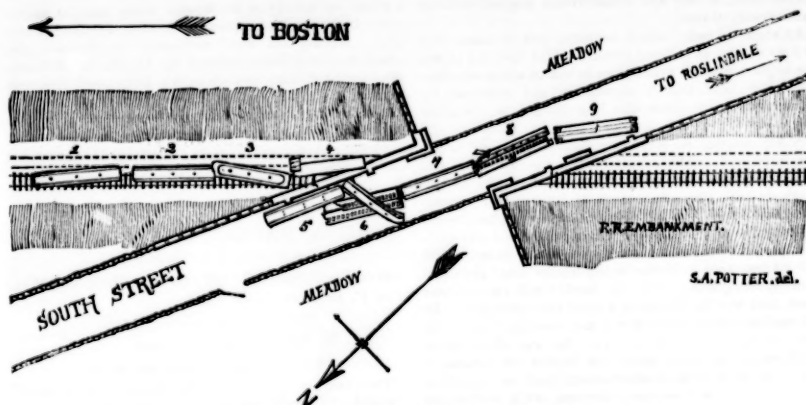
Dr. O. H. HOWE, speaking of the wounded brought to the Boston City Hospital, confirmed Dr. Sparhawk's observation in regard to the symptom "nervousness," and mentioned cases in which it had persisted for several days. Pain in the back, usually without obvious lesion, had also been complained of by most of the patients, in some instances even until they left the hospital.

Dr. J. A. TANNER, who had been in several minor accidents, had experienced the irritability to which reference had been made, and it had lasted in his case for several days. He had noticed that ladies were more strongly affected than men; also, that when an accident happened upon the water, these nervous symptoms did not appear. He explained their absence by the fact that an accident upon the water is accompanied by neither the suddenness nor shock which characterizes a railroad disaster.

Dr. E. P. GERRY read a paper upon

#### INJURIES TO THE BACK IN RAILROAD ACCIDENTS,<sup>1</sup> and also made remarks upon the influence of the dis-

<sup>1</sup> See page 468 of the Journal.



BIRD'S-EYE VIEW OF ROSLINDALE DISASTER.

## EXPLANATION.

The parallel continuous lines upon the embankment, represent the existing track; the dotted lines, a projected track. The bridge was built to accommodate two tracks, but was actually crossed by one. The train was composed of nine cars, and was moving toward Boston.

The report of the Railroad Commissioners states: "The original cause of the disaster was the breaking of the hangers at the joint-block at the north end of the Hewins truss (the western truss). The strain which broke the hangers was probably given when the engine driving-wheels passed over them, and there was a slight depression of the bridge when the engine left it. This depression had increased when the first car left the bridge, so that, as it went up off the bridge, it jumped the truck to the east; and its rear truck was torn from it. The second car dropped still farther, receiving a much more severe concussion at the end of the bridge; but the train of seven cars behind it crashed into its rear and threw it up over the edge of the

abutment, displacing both its trucks and leaving them under its rear end. When the second car struck the abutment, the third car was driven against it with such force—that car being just upon the point of leaving the solid part of the bridge at the middle of the truss—that its Miller platform was crushed on top of, and into the platform of the second car, and became inextricably entangled with it. This may have saved the third car from going into the street, as it must have formed a very strong and close connection between the two cars, and must have greatly helped to carry the front end of the third car over the chasm."

The fourth car struck the abutment, its upper part sliding forward onto the embankment, the remainder falling into the street. The top of the sixth car was separated from its sides, and thrown across them. The eighth car lay upon its side, partly telescoping the seventh. The ninth car rested upon its top. The remains of the bridge and track lay chiefly along the southern abutment.

aster upon the menstrual function. He had no doubt that such accidents profoundly affected the female. Of twelve cases, in regard to which he had made special inquiry, eleven had anticipated their period by from seven to ten days, and one, (a sister of one of the injured,) who was menstruating at the time of the accident, stopped, and began again after two or three days.

DR. T. A. DEBLOIS stated that in conversation with a Pullman car conductor, as to the wisest thing for a passenger to do in case of a railroad accident, he had been advised, if he were riding in an ordinary car, to cling to the seat, but, if in a Pullman, to catch hold of something at the top of the car. The top of an ordinary car may come off, that of a Pullman never does; in addition to which the upholstery of the seats in the Pullman not being fixed would move.

DR. E. G. MONSE had under his care a young woman of between eighteen and twenty years, who went down in the fourth car. The chief injury was to her back. There was tenderness over the spine, headache, tingling and prickling in both lower limbs. At first she would probably have fainted, had she attempted to walk. Her menstruation was unaffected, and she is now apparently recovering.

DR. J. H. MURRAY reported the case of a man who when extricated from the car was unconscious, but, soon recovering, assisted in the removal of the wounded, went to Boston the same day, and also the next. On the second day after the accident, he presented the following symptoms: dilated pupils, painful respiration, a pulse of sixty beats to the minute, irregular,

intermittent, and excited to one hundred upon the least exertion, tenderness over the dorsal, lumbar, sacral, and coccygeal regions, pain in the ankle, knee, and hip of the right leg, diminution of sensation and motion in the same limb, and an inability to bear weight upon it, restlessness, sleeplessness, and emotional irritability.

His condition remained constant for seven or eight days, and then began gradually to improve. He now shows every indication of ultimate recovery.

DR. P. C. KNAPP said that it was interesting to see how few of the cases reported injured in this accident, showed symptoms of injury to the central nervous system. In the individual, where injury has caused some gross lesion, such as laceration or fracture, it is rare to find also present, that group of obscure nervous symptoms, erroneously classed under the heading of railway spine. Perhaps it might be also true that in an accident where the results were so severe and caused so many fatal injuries, the number of cases of milder injury such as give rise to these nervous symptoms, might be small. Most cases of so-called "railway spine," however, have nothing to do with the spine, although many serious affections of the vertebrae and cord may arise from such injuries. Among these affections are true spinal concussion,—a rare and transitory disorder—fracture of the vertebrae, spinal hemorrhage, myelitis, and strain of the muscles and ligaments of the vertebral column. Beside these true spinal disorders, there is a large class of obscure chronic cases, which, following the dictum of Charcot, it has been the fashion

of late to call hysteria. Functional disorders of the nervous system are not uncommonly produced by railway injuries—neurasthenia is not infrequent, but hysteria is distinctly rare. It is generally believed now that many of these more chronic disorders are organic and are caused by a slight sclerosis of the central nervous system. Even in hysteria the prognosis is grave, and in organic disease the patient rarely recovers.

Dr. H. C. ERNST considered that we should wait from six months to a year in order to see the characteristic symptoms of "railroad spine," and recommended that the cases now under discussion be reported again at the end of a year.

Dr. KNAPP believed that a careful study of just such cases as those resulting from this accident was what was required to dispel the obscurity at present involving the whole subject of "railroad spine," and hoped that such a study would be made.

Dr. ERNST inquired if it was not as yet too early for even an expert to diagnose between a malingerer and a case of "railroad spine."

Dr. KNAPP replied that although the symptoms of the true spinal affections he had spoken of—strain, fracture, concussion, hemorrhage and myelitis—might be looked for soon after the accident, the more chronic conditions, such as hysteria, functional disease, or sclerosis were of slower development, and it was now a little too early for them to manifest themselves.

THE PRESIDENT raised the question as to whether the determination of damages in railroad accidents came properly before the physician or lawyer.

Dr. ERNST, considered that a physician when acting as such, should confine himself to medical questions entirely.

Dr. E. G. MORSE cited a case of damages recently settled by the Old Colony Railroad, in which the road chose one physician, the patient a second, and these two a third. The three physicians determined the amount of damages.

Dr. G. W. GAY said that while acting in the capacity of attending physician or surgeon, it is wiser and better to express no opinions, and to give no advice in regard to the financial part of the case. In the great majority of cases an expression of opinion on this subject will incur the displeasure of the patient, from the fact that his ideas of compensation are naturally much higher than those of an outside party. Should the physician see fit to name a sum as being, in his judgment, proper for settlement of the claim, he should not hesitate to declare it openly and freely to both parties, and, if need be, he should give his reasons for his conclusions.

Dr. GAY had been told that the superintendents of two railroads in this vicinity had expressed the opinion, that cases of personal damages are settled more reasonably and fairly by the arbitration of physicians, than in any other way.

Physicians not only have their knowledge and experience upon which to base their opinion, but, as a rule, their training prevents their judgments being very much warped by their sympathies. They, of all men, can form an intelligent idea as to the permanency of an injury, as well as to the degree of disability imposed upon the injured party. No one will deny that the physician is the proper person to decide as to the genuineness of the symptoms complained of by the

patient. This is one of the most important, as well as most difficult parts of cases involving suit at law for personal injuries. Are this man's complaints consistent with his appearance and his actions? Are similar cases met with in which there are no legal complications? As a rule, the two classes of cases present a marked contrast, and physicians are, other things being equal, the proper persons so decide these questions, and also, it would seem, to award the amount of damages.

Dr. F. W. DRAPER said that while, in a broad, legal sense, all men are equal, yet in assessing damages, as in the cases under discussion, the elements of vocation and station in life should be considered. In the matter of the relation of the physician or surgeon to his patient, he thought that the less the medical attendant meddled with his patient's legal affairs the better; but that as a duly commissioned referee, he might properly act in any case that presented, his more accurate knowledge of the claimant's condition and prospects, rendering him peculiarly competent to make a just award.

Dr. H. C. ERNST spoke upon

#### APPLIANCES USEFUL IN SUCH AN EMERGENCY.

In thinking of what appliances may be useful in case of such an accident as this, there are two considerations to be borne in mind; first, that the physician will be in a hurry, and, consequently a thing to be of use must be small in bulk and easily carried; second, that the physician must know where his apparatus is, and not be obliged to hunt for it.

In a railroad accident the injuries to be dealt with are all such as belong to acute surgery: fractures of all kinds, cuts, bruises, spinal injuries.

One of the greatest difficulties is to find splints which will answer all demands. A patient is often injured by transportation as well as by the accident. The splints which best fill the requirements of compactness and portability, are those known as Levis'. They are of copper, nickel-plated; are perforated, flexible, of all sizes, and easily applied to any limb. A set of them comes in a box of moderate size, which can be easily carried.

Next to that of splints is the question of the treatment of wounds. Believing, as I do, that suppuration is caused by the activity of bacteria alone; that bacteria always come from without, and that if they do not obtain an entrance, a wound will invariably heal by first intention, the prevention of such entrance becomes a point of cardinal importance. One of the few unquestioned facts regarding germicides is that corrosive sublimate is the most powerful. The error committed by most surgeons is that they use it in too great strength. A 1-1000 solution will destroy bacteria instantly. But such a strength is appropriate to the laboratory experiment in which a test-solution is used containing multitudes of bacteria in full vigor, rather than to a wound where there are but few bacteria. For the latter purpose, a 1-10,000 or 1-15,000 solution, repeatedly applied, is all that is necessary, and, if repeated, is, I believe, just as effective as the stronger. The stronger solution hurts the tissues and may readily produce poisoning.

Corrosive sublimate is easily carried in the form of compressed tablets, one tablet (such as those of Wyeth) to a pint of water making a 1-1000 solution.

As suppuration often starts from stitches, it is a

matter of consequence to have needles and thread aseptic. Efforts have long been tried to make them so. Many receptacles have been made, but none ever do or can prevent the exposure of the thread to the air.

A method used by the speaker in laboratory work, is to expose needles and thread in a bottle stoppered with cotton-wool, to moist heat, employing the same principle as is used in sterilizing fluids. The bottle, or test-tube, containing the needles and thread may be placed in some vessel, as a small tin-pail, containing a moderate quantity of water. Upon the vessel is to be placed a loose-fitting cover. The water is to be raised to the boiling point and a steam bath maintained for fifteen minutes. Needles and thread thus prepared can be kept indefinitely, will not occasion pus, and the needles do not rust, except after some time. But the method is extremely easy of application to hospital use. If dry heat is used, the same essential principle is carried out, and the time when the needles and thread become sterilized is marked by the cotton-wool plug turning a light brown. (But the moist sterilization is much the better.) The needles and thread must, of course, remain in the bottle or test-tube until used.

Bandages are necessary. There are the ordinary roller, of which, however, it is difficult to carry a large supply, and the Esmark triangles, the applicability of which is almost endless.

It should be said that great credit is due the people in the neighborhood of the accident for the promptness of the assistance rendered. Thirty-five minutes after the catastrophe occurred, the last wounded man was being taken from the train, and the dead, with one or two exceptions, had been already removed.

DR. B. E. COTTING, on being called upon, said that after an accident, like that under consideration, the first thing to be done was to relieve at once the injured from immediate danger and distress, and then to put them in a suitable condition for removal to places where they could be properly and thoroughly cared for, their homes, hospitals, or other permanent shelter. To this end severe hemorrhages should be checked at once, fractured limbs stayed up, wounds covered, bruises bound up—those most dangerously off first attended to so far as practicable. All this need be temporary only, to render transportation as little dangerous and painful as possible. At the place of the accident, for most temporary purposes, anything that comes to hand may be made use of, strips and fragments of cloth, towels, handkerchiefs, etc. (a young lady once tore up her petticoat for him to make a tourniquet of, for an injured friend bleeding dangerously.) Strips of bark, of boards from fences, bundles of twigs, or of straw even, will answer for temporary splints (he had used such), and hay or moss may do for padding. In short, whatever one can lay hands on; precisely as he would adjust for removal a wounded man in a street accident. Loammie Baldwin said that "to be a good engineer one should know how to bore with a jack-knife, and to whittle with a gimlet"; so should a practitioner be ready to avail himself of whatever falls in his way; and above all, keep himself calm, even at the risk of seeming indifference.

On arriving at destination the injured should be given up to their chosen attendant, who will make all required re-adjustments, and supply all previously unavoidable deficiencies.

Dr. Cotting would add that he had been surprised to hear the use of triangular bandages attributed to Esmarck. The use of handkerchiefs, triangular, square, and oblong, for all kinds of fractures, or injuries where bandages are required, was a hobby of Dr. Mayor, of Lausanne, introduced by him half a century ago.<sup>1</sup> The practice became noted everywhere in this country as well as abroad. The number of applications made by him was truly surprising, and his methods are in reality worth studying. As temporary resorts they are invaluable.

## AMERICAN SURGICAL ASSOCIATION.

ANNUAL SESSION OF 1887.

The annual meeting of the American Surgical Association was held in the reading-room of the Army Medical Museum, Washington, D. C., May 11, 12, 13, and 14, 1887.

FIRST DAY, WEDNESDAY, MAY 11.

MORNING SESSION.

The Association was called to order at 11 A. M. by the President, DR. HUNTER MCGUIRE, of Richmond, Va.

PRESIDENT'S ADDRESS.

THE NEED AND VALUE OF CO-OPERATIVE WORKS IN SURGERY.

To preside over a body of men, each one of whom is daily, almost hourly, doing something to lessen human suffering, and to add to the life and comfort of his fellow-men, is indeed a proud distinction. I shall venture to occupy your time briefly, not with a discussion of some surgical subject, for the programme shows how rich the supply of material will be in this direction, but with some remarks concerning the need and value of coöperative work in our profession, and afterwards, in suggesting some changes in the management of the meetings of this Association. Nearly every advance in whatever is accomplished by human enterprise is secured by coöperative effort. Every department of life is full of illustrations of the power of association in the accomplishment of great purposes, while the illustrations are almost as numerous of the failure of individuals to attain those ends, because they work unaided and alone. (Many illustrations of the beneficial results of coöperation in other departments of labor were cited from history.) Advance in surgery can be more surely made by associations such as ours, than by any individual efforts of man. The day has passed when the dictum of one man, no matter how exalted he may be, is received without question. The difficulties which beset us are numerous. Disease presents problems difficult of solution. We cannot apply to the human machine the fixed rules by which inanimate bodies are governed. The result of the work of the surgeon in private houses and in public hospitals must be different. Besides this, it is necessary to get rid of the rubbish with which we are too often flooded by ignorant, but ambitious, contributors. This is an easy task; but it is more difficult to know when to reject the material presented by skilful, but unscrupulous workers, who, to gratify their own personal vanity, make false returns of their labors.

I have mentioned only a few of the difficulties by

<sup>1</sup> Nouveau Système de Ligature Chirurgicale, Paris, 1838.

which we are surrounded. Their influence over the true man, the true surgeon, should be to make him more patient, inspire him with more zeal, and teach him more plainly the value of coöperative industry. For the developments yet awaiting us, we must be indebted to the contributions which every patient and conscientious laborer may bring to the common stock of ascertained knowledge, and we shall accomplish this best by the cultivation of a broad and generous appreciation of each other's work, from which every particle of envy at the success of others has been eliminated, by the hearty commendation which we give to all who have enlarged the boundaries of surgical science, or who have improved its art.

In concluding his address, the President made the following suggestions:

(1) The formation of a business committee, to prepare the work of the Association. The committee should select two general subjects in surgery, to be discussed at the morning sessions of the first and second days.

(2) The address of the President should be limited to half-an-hour, readers of papers to the same time, and those who take part in the discussions to fifteen minutes.

(3) I venture to suggest the abrogation of Article 9 of the Constitution. This will allow us to admit to Fellowship some men in this country who are really needed in the Association. While I believe in the rigid observance of the code of ethics of the American Medical Association, and the absolute necessity of its enforcement in that body, there is no need for it in our Association. The only code that we should have is scientific work.

(4) That the report of the Committee with reference to the American Congress of Physicians and Surgeons be adopted.

(5) That the Constitution be so amended that propositions for membership shall lie over for one year. The qualifications for Fellowship should be age, experience in surgical work, scientific attainments, with general culture.

A committee of five was appointed to take into consideration the suggestions offered by the President. The Committee consists of Drs. S. A. Gross, C. H. Mastin, D. W. Yandell, Moses Gunn, and C. Johnston.

The Association then went into executive session.

#### AFTERNOON SESSION.

#### THE EXPLORATION OF THE BLADDER BY THE SUPRA-PUBLIC METHOD,

by F. S. DENNIS, M.D., New York.

The supra-pubic operation of to-day is practically the same as the old operation; the only improvement has been improvement in technique. A brief historical account of the operation was given. The first reported operation was that of Franco in 1851. From that period to 1879 the operations were not numerous, but from 1879 to the present time the operation has been done with such success as to attract attention throughout the world. The time is not far distant when practically the only two operations will be supra-pubic lithotomy and litholapaxy. Supra-pubic lithotomy is simple in technique, safe in execution, free from injury to the reproductive organs, radical in results, curative in application and brilliant in statistics. The many serious accidents attending the lateral operation are avoided.

*Technique of operation.* For a few days before opera-

tion a milk diet should be employed. The day previous to operation the bowels should be moved with castor oil. The morning of the operation an enema should be used so as to empty the rectum for the introduction of the rubber bag. The parts should be washed with anti-septic solution. After the patient has been etherized, the surgeon should introduce a rubber bag into the rectum so as to be above the internal sphincter. Into this twelve ounces of warm water is to be introduced. This quantity will have to be increased or diminished according to circumstances. The danger of rupture of the rectum in elderly people and young boys, should be borne in mind. The urine should be withdrawn and six ounces, more or less, of an antiseptic solution introduced into the bladder. The catheter may be left in the bladder and stopped with cork, and this will serve as a guide to cut upon. The distention of the rectum and bladder increases the distance from the pubes to the anterior cul-de-sac of the peritoneum to three inches. The incision should be made in the median line and should extend for three or four inches above the pubes; when the transversalis fascia is reached the use of retractors on the principle of the eye-speculum facilitates the operation. Having divided the fascia the end of the catheter can be felt and cut upon as a guide. The bladder may then be seized with two tenacula and opened. Where free exploration is desired, sutures are introduced on each side of the incision. The stone is removed either with the fingers or forceps. The bladder may then be washed out. A catheter should be introduced through the urethra, but not left longer than twenty-four hours, on account of the danger of exciting traumatic urethritis. In the majority of cases the wound of the bladder should be left open. In cases of calculi, the condition of the tissues is such that primary union is unlikely. In certain other conditions such as rupture, the wound may be closed, for here the condition of tissues is different. The abdominal opening is to be closed and a tube introduced.

This operation is indicated (1) for hard, large calculi, and in persons suffering with paraplegia and deformities rendering lateral lithotomy difficult. (2) For removal of certain foreign bodies such as hairpins, etc., and for the treatment of chronic cystitis. (3) In cases of tight stricture, fibroma of prostate, tumors of the bladder, and for rupture. In its extraordinary simplicity, its reduced mortality, its freedom from danger and safety for the general practitioner, it compares well with litholapaxy.

The speaker had collected one hundred and twenty-four cases of supra-pubic operation for stone, done since 1879. Previous to this date, the rate of mortality was thirty per cent. Since then the mortality has been reduced, there being eighteen deaths, a mortality of fourteen per cent. Seven of these deaths may be justly excluded, giving a mortality of nine per cent. According to Sir Henry Thompson's statistics, the death-rate from the lateral operation is twelve per cent. According to the same authority the mortality of lithotripsy is six per cent. In considering the mortality of this operation, two facts are to be considered. The mortality may be improved by more rigid antiseptic precautions. The second fact is that the operation has been limited to the largest stones. When the smaller stones are included, the death-rate will be reduced. Specimens showing the position of the bladder under various conditions were then shown.

**SUPRA-PUBIC CYSTOTOMY FOR OTHER PURPOSES  
THAN THE REMOVAL OF CALCULI,**

by JOHN H. PACKARD, M.D., of Philadelphia.

He referred at length to the history of the operation as it appears in cases recorded from 1750 to 1886. The opinions of authors in regard to the hypogastric operation in general, and especially with reference to the evacuation of urine, was next given. In regard to the anatomical relations of the peritoneum to the bladder and abdominal walls, much diversity of opinion was found to exist.

In 1883, the speaker removed by supra-pubic cystotomy, a piece of shawl-pin, five inches in length, which had been passed through the urethra. Since then he has done this operation a number of times. In cases of retention of urine from stricture, where a fair attempt to pass an instrument fails, he draws the urine by aspiration. In a short time an instrument can usually be passed. He did not recall a case in which it was necessary to repeat aspiration. The following cases were cited:

July 7, 1865. Mr. G., eighty-five years old, had retention due to large prostate. The bladder was greatly distended. The urine was drawn off with a long catheter, but he desired more permanent relief, supra-pubic cystotomy was performed, and a glass ovariotomy tube, bent like a tracheotomy tube was introduced. The patient improved decidedly, but suddenly died July 9th, from heart failure, the result of sudden exertion.

J. C., aged forty-three, came under observation January 21, 1885, at Penna. Hospital, with a history of retention, the result of old stricture. The bladder was greatly distended and no instrument could be passed. There were frequent chills and profuse sweats. The next day Dr. Thomas G. Morton made a perineal incision, opening an abscess, the catheter then passed into the bladder. The following day the bladder was again distended; supra-pubic incision was then done. A catheter passed through the abdominal opening and the neck of the bladder escaped through the perineal wound. On February 7th, a large mass of slough came from the abdominal wound. The patient then rapidly improved and was discharged cured, April 21st.

H. F., forty-three years old, had retention for four days. The penis, scrotum, and skin of abdomen were swollen, tense and rigid. Free incisions were made. The bladder was opened and a tube introduced. On June 4th, an instrument was passed by urethra. On July 13th the patient was discharged and has continued well.

Mr. S., age sixty-three, admitted with enlarged prostate and frequent attacks of retention. August 13, 1886, supra-pubic incision was performed and the bladder opened. Although the condition was improved the patient died of exhaustion August 29th.

The next two cases occurred at Penna. Hospital, within past few weeks. W. E., age seventy, was admitted April 24, 1887, with retention due to enlarged prostate, supra-pubic cystotomy was performed and a large quantity of putrescent urine removed. A rubber tube was passed into the bladder. The urine contained albumen to the amount of one-half its bulk. Granular casts were also found. A typhoid condition developed and the patient died on the fourteenth day after admission.

R. W., age forty, was admitted the same day. He

had double inguinal hernia and double hydrocele. He had passed no urine for fourteen hours. Catheterization was attempted without success. Supra-pubic incision was then performed and a rubber-tube introduced. He has done well since then, and is beginning to pass some water by the urethra.

**Method of Procedure.** The fullest antiseptic precautions should be observed in these cases. In most of the cases on which the author had operated the question whether or not the bladder should be distended had not presented itself, as the bladder was already over-distended. The bladder should never be more than moderately distended, not more than six or eight ounces of a boric acid solution being employed. To retain the water in the bladder a convenient method is to bend the urethra on itself and hold it in this position. There seems to be more advantage and less risk from distension of the rectum. Many writers recommend that the bladder be steadied by an assistant, but this was regarded as needless and objectionable.

The incision through the skin should be free enough to give ready access to the deeper parts. When the bladder is reached it is desirable to secure it in some manner before puncturing. For this purpose a small double hook may be used. A small tenaculum may answer. When a large opening is to be made a double ligature is perhaps the best device. In cases of retention the curved trocar and cannula may now be at once used. The cannula should afterwards be substituted by the tube. The speaker's custom is to make the opening in the bladder just large enough for the tube. The proper point for making the opening seems to be about at the middle of the exposed portion of the wall of the bladder, which would be about one inch or one-and-one-half inches above the pubes.

The drainage-tube should go well into the bladder, and have lateral openings only near its extremity. The external end may be closed with a cork or clip or by bending it. In old men with atonied bladders he had sometimes used glass tubes. If a large opening has been made in the bladder it may be closed around the tube with a few cat-gut sutures. The tendency of the wound is to close quickly except where the tissues as well as the general system are in bad condition. The edges of the wound in the skin can be apposed with sutures of cat-gut or silk-worm gut.

In concluding, the speaker asked, "If the supra-pubic section had been first tried, and generally adopted, is it likely that the perineal operation would have been afterwards performed on account of its greater ease, simplicity, and efficiency?"

**TO WHAT EXTENT CAN WE CLASSIFY VESICAL CALCULI FOR OPERATION? WITH A REPORT OF CASES AND REMARKS ON THE DIFFERENT METHODS EMPLOYED,**

by A. VANDER VEER, M.D., of Albany, N. Y.

After a few preliminary remarks, the speaker gave detailed histories of forty-one cases which he had operated on. The various methods employed were lithotomy, rapid dilatation of the urethra, and Bigelow's operation (litholapaxy).

There were seven cases of perineal lithotomies, with two deaths and five recoveries, the former being very old men, with large stones. Of attempted litholapaxies and an immediate perineal lithotomy, there were two cases, both resulting in death, one occurring in the speaker's practice, the other in the practice of a friend.

Both were severe cases of large stone, the patients presenting a history of much suffering through many years. Of dilatation of the urethra in the female, and washing out of fragments or removal of stone entire, there were six cases, all recovering with no complication whatever. Of urethra-calculi in the male, there were four cases, all recovering. Of simply lithotripsy in the male there was one case, followed by recovery.

Of attempted litholapaxies, but which were not completed, there were four cases, three ending in death, and one, the stone hiding in a sac, later underwent perineal lithotomy and recovered. One was probably complicated with some form of tumor of the bladder, and a history of chronic disease of the kidneys. One was a case of chronic alcoholism, one was complicated with sacculated bladder, and the last two were cases of surgical kidney of the very gravest kind.

Of the litholapaxies in the male, there were eighteen patients having twenty-two operations, four requiring a second operation. Of the number, sixteen recovered and two died. Of the latter, one after the first and one after the second operation.

With reference to supra-pubic lithotomy, the author said that, with the excellent results we are ever likely to obtain from rapid lithotripsy, the operation must necessarily deal with severe cases of large, and, in some instances, sacculated stone. He did not believe that we should ever expect from it as great a per cent. of recoveries—it is hardly possible. A table of reported cases of supra-pubic operations was given, showing in 142 adult cases a mortality of 22 per cent.; in children under fifteen years of age 113 cases gave a mortality of 10.5 per cent.

• The operation of litholapaxy is certainly indicated where the stone is small or of moderate size, and, contrary to the teachings of a few years since, can be done in very young male children, with proper instruments. In male adults, if there is severe chronic cystitis, no matter what is the size of the stone, the supra-pubic or some form of perineal lithotomy seems best. The cystitis can then be successfully treated, and there is less danger of a reformation. The speaker thought that it would be found by future statistics that cystitis has much to do with the necessity for a second or third operation. He thought that contracted bladder in the male, with adhesions, had not received the attention which it demanded. This must, in some instances, embarrass supra-pubic lithotomy. On anatomical grounds, the supra-pubic operation will be much simpler in the youth, as the bladder is much higher in the pelvis at this time of life. In girls, rapid dilatation or supra-pubic lithotomy will undoubtedly reach all cases. In adult women, vaginal lithotomy may be added.

The discussion of these papers was postponed until Thursday morning. Adjourned.

(To be continued.)

#### NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting April 18, 1887.

DR. WM. T. LUSK reported a

##### SUCCESSFUL CASE OF CÆSAREAN SECTION.

The patient was twenty-four years of age, and a native of Ireland. On March 21, 1887, she was sent from the Mothers' Home, on Staten Island, to his ser-

vice at Bellevue Hospital, on account of deformity of the pelvis resulting from hip-disease. The latter dated from the age of eleven, and on account of it she had at this time been sent to a Dublin Hospital for treatment. She was discharged cured; but during her pregnancy she noticed some suppurative discharge from the old sinuses which had formed at this period.

On March 22d, Dr. Lusk visited the hospital and made an examination of the patient, when much to his surprise he found that she was already in the early stage of labor. The pelvis was ascertained to be of the type known as the Nægele oblique, and having given its diameters, which showed very marked contraction, he said that with the sanction of Drs. Isaac E. Taylor and H. J. Garrigues, who saw the case in consultation, he determined to perform Sænger's operation. Craniotomy, he went on to say, was generally considered comparatively simple; but, with the pelvic dimensions that were present in this case, he had no doubt that the danger from it would be greater than that from Cæsarean section, provided the latter were performed sufficiently early. Dr. Taylor was of the opinion that the case was nearly identical with one in which Dr. Lee performed craniotomy, and where the patient died. Dr. Lusk also referred to a similar case in the practice of Dr. Studley, where the pelvis was fractured in the effort to deliver the child.

As the patient was already in labor, no time was to be lost, and he determined to operate at once. Both the private pavilions of the hospital being occupied, he was obliged to perform the operation in one of the wards. It was commenced at 3.30 p.m. The abdominal incision was made through the linea alba, and extended from just below the umbilicus to a point two or three finger's breadth above the symphysis pubis. The peritoneum having been slit up, the uterus was everted by the hands over the abdomen. When the organ had been thus turned out, the intestines were placed behind it, and both the intestines and uterus wrapped in warm towels; a solution of bichloride of mercury, 1 to 10,000, being used. A rubber-tube was then placed around the uterus, in order to prevent hemorrhage. In opening the uterus an incision two inches long was made near the lower segments, and with the scissors afterwards increased to five inches. Owing to the pressure upon the vessels secured by the elastic ligature, the incision was nearly bloodless.

The child was found with the head presenting in the left occipito-anterior position, and on being extracted, was in a cyanotic condition, from the pressure caused by the rubber; but through the efforts of Dr. A. B. Ball it was successfully resuscitated. With the finger the membranes and placenta were readily detached from the uterine walls, and the delicate structures described by Leopold was at this time beautifully exhibited. All through the operation the intestines were held back by warm towels. The uterus remained of a pale waxy color, on account of the elastic ligature.

In closing the uterine wound, thirty-four carbolized silk sutures were employed, of which sixteen were deep, and the rest superficial. In the deep sutures, he said, special pains should always be taken to avoid the mucous membrane of the cavity. The Lembert suture was used in making the superficial sutures. When the rubber-band was removed from the uterus the blood slowly returned to the pallid organ. At first it assumed a delicate rosy hue, finally a deep purple. A

slight oozing was then observed at one point. The uterus was then returned to the abdominal cavity, and a drainage-tube inserted behind the organ. Silver-wire sutures were employed to close the abdominal wound. At the end of the operation, which lasted one hour and fifteen minutes (twenty minutes of this time being taken up in endeavoring to stop the oozing referred to), the patient was in excellent condition.

For three days after the operation the temperature did not go as high as 100°. Then there was a little tympanites, and it went up above 101°; but a Scidlitz powder had the effect of promptly reducing it again. On the fifth day the drainage-tube was removed. Immediately after the operation the discharge from it was stained with blood, but it soon became colorless. Dr. Lusk said that the tube was not, in fact, needed in this case; but at the same time there was a certain feeling of security in knowing that it was in position. On the day following the removal of the drainage-tube there was some oozing from the opening left by it. At the end of a week the abdominal sutures were removed. At this time the temperature would usually go up to about 100.5° in the evening, and then fall again by morning.

On the ninth day some fluctuation was detected in the time of the abdominal wound, and a little pus was evacuated; after which the temperature became nearly normal. At the end of two weeks, however, the temperature went up suddenly to nearly 103°. Still, no trouble whatever could be discovered about the abdomen, and as the patient complained of pain in the right hip, an examination was made which revealed an accumulation of pus in the site of the old sinuses which had given trouble during pregnancy. Since that time the patient had continued in most excellent condition. Ever since the second day, by which time she had recovered from the effects of the ether used for the operation, she had been able to take abundant nourishment. She passed her water freely, was comfortable in every way, and on the whole seemed to think it was quite an easy way of having a baby. There had, indeed, been no question of her recovery at any time. The infant now weighed ten pounds, and was also doing perfectly well.

DR. SILVA, lately house-surgeon in Bellevue Hospital, who had had charge of the case, stated that the patient did better altogether, than any other case of laparotomy that he had the opportunity of observing during his service at the hospital.

DR. T. J. KEARNEY inquired whether it would not have been better in such a case as this to perform Porro's or Tait's operation, in order to prevent the woman's becoming pregnant again.

DR. LUSK replied that statistics showed that with the Sanger operation (more or less modified from the procedure as originally proposed), there were over seventy per cent. of recoveries, while in Porro's operation there were only forty per cent. of recoveries. It was, therefore, unquestionably a more dangerous operation. In regard to Tait's, it seemed to him that the additional risk to which it subjected the patient was by no means advisable; the extremely vascular condition of the parts constituting a serious objection.

At all events, he should not like to attempt this, in addition to Cesarean section, unless he had time to consider the matter very fully beforehand, and in the present instance the operation was undertaken in very sudden manner, as he had no idea that he would find

labor actually commencing when he made his first examination of the patient.

DR. J. R. MACGREGOR said that he had been with Dr. Studley at the time the fracture of the pelvis referred to by Dr. Lusk occurred. The patient had ankylosis of the right hip, with a projection inwards of the ramus of the pubes on that side; but it was thought that she could be delivered *per vias naturales*, with the aid of artificial assistance, until the accident occurred. The patient died, though not immediately.

DR. SILVA said that in the *American Journal of the Medical Sciences* for 1878, Vol. II, Dr. Robert Harris, of Philadelphia, had published statistics of one hundred cases of Cesarean section, and out of nineteen of the cases, all of which occurred in dwarfs, only one mother and five children were saved. In all these cases the operation was only undertaken as a last resort, when the patient was utterly exhausted; and the results certainly afforded ample proof of the importance and desirability of early surgical interference.

DR. C. S. WOOD said that in the course of his experience he had had to perform craniotomy three times, and he thought that this class of cases was without doubt as disagreeable and repulsive as one could possibly meet with. If, therefore, by this operation it was possible to save more mothers than by craniotomy, it would be a great boon. Thus far, however, statistics unfortunately showed that it saved a far smaller proportion of mothers. In two of the cases of craniotomy that he had met with, the mothers recovered, while in the third the mother was lost. Yet in one of the successful cases he labored under great disadvantages, as, not expecting to be called on to perform craniotomy, he had no instruments for the operation, and was so situated that none could be obtained on short notice. Under these circumstances he resorted to the device of manufacturing such rough instruments as he could from some shoemaker's tools; and he thought the case was of interest as showing what might be accomplished by very simple means sometimes, in an emergency.

There seemed at present to be gaining ground a sentimental notion that it was of the greatest importance to save the child; but he was one of those who believed that the mother should be saved at all hazards, whether the child was sacrificed or not; and as long as it could be shown that more mother's lives were lost by the Cesarean section than by craniotomy, he thought the latter should be given the preference.

DR. KEARNEY said that he could not agree with the views expressed by the last speaker. Dr. Bedford, he thought, had given the most rational statistics, and if, as was undoubtedly the case, it could be shown that in the aggregate more lives (of mothers and children taken together), could be saved by Cesarean section, it should without doubt be preferred to craniotomy. The matter was not merely one of sentiment; it was more than that, and involved a question of deep ethics. By simple logic alone, the justice of the Cesarean operation could be established, and he had never yet seen the objections against craniotomy adequately answered by any author with which he was conversant.

DR. LUSK said that if, in speaking of Cesarean section, was meant the old operation, as it had usually been performed, unskillfully or carelessly, and when the patient was already practically moribund, the mortality was undoubtedly very heavy. It was a fact that in most of the cases it was resorted to only when

the woman was in a dying condition, and after all other methods of delivery, craniotomy included, had been tried in vain. When it was remembered, too, that a rough and careless way of operating had also been the rule, it was no wonder that the patient died, and that such cases bore heavily against the value of the procedure. But, even under all these disadvantageous circumstances, a few cases had recovered.

At the present time it was getting to be understood that the operation should be performed, whenever this was possible, under more favorable conditions and in the same careful way as any other surgical procedure involving the abdominal cavity. The operator should take sufficient time to make out the pelvic diameters and consider fully the risks that would be encountered in performing craniotomy. If, having done this, he decided that the Cesarean section offered the best chance of success, he should make his preparations as deliberately as the circumstances of the case would admit of, and perform the operation by methods in accordance in every particular with the precepts of modern antiseptic surgery. When this course was pursued, the results were infinitely more satisfactory than those met with in the old operation, as was shown very clearly by the cases of Leopold, for instance, who had operated ten times, with only one death. In the light of his later experience, Leopold thought that he would now have been able to save even the one that proved fatal. Very few obstetric surgeons, Dr. Lusk remarked, could show a result of ninety per cent. of recoveries in their cases of craniotomy. Within the last eighteen months Harris had collected forty cases of Cesarean section, with seventy-three per cent. of recoveries; while the best results of craniotomy in these difficult cases showed only sixty per cent. of recoveries.

While he was quite aware that too implicit reliance should not be placed on statistics, other operators besides Leopold had reported four, five, or six consecutive cases, without a death. One great reason for the gratifying success of the modern operation was, he believed, to be found in the use of the rubber ligature, which so effectually prevented hemorrhage from the severed uterine structures. When this was employed, the surgeon could go to work very deliberately, and bring the edges of the wound together with the greatest accuracy. In his own case, there was absolutely no symptom during the lying-in period which was referable to the uterine wound. In conclusion, he would only say that if we were to wait until the woman was dying, instead of interfering early, as in this instance, we should only have the old statistics repeated.

Dr. W. S. GOULEY inquired what Dr. Lusk thought of the operation of laparo-elytrotyomy in these cases.

Dr. Lusk replied that this procedure was particularly adapted to a special class of cases, namely, when the head was arrested at the brim of the pelvis, and the cervix was already dilated, or in a dilatate condition. If, however, we were obliged to pass the forceps through an undilated cervix, it was a very serious operation. In case, therefore, we desired to operate early, we had to do it at a time when the conditions favorable to laparo-elytrotyomy did not exist. Of the twelve cases of this operation which had been reported, six had resulted in recovery, and six had proved fatal, the latter being cases in which success was impossible, from the conditions existing at the time.

(To be continued.)

## THE BOSTON Medical and Surgical Journal.

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### PHAGOCYTES AND BACTERIAL INVASION.

LATELY, attention has been directed to the part played by certain cells, chiefly derived from the white blood-corpuscles, in the removal of dead tissue and foreign substances from the animal economy by process of intra-cellular digestion. Prominence was first given to this by Metschnikoff, a Russian investigator, from the direct observation of the lining of the digestive track of certain of the lower, transparent, aquatic forms of animal life. Later, cells having a similar function were found at the place of separation of the tadpole's tail. For all these, he proposed the name of phagocytes. Subsequently, their sphere of action has been extended in a recent article from his pen, on "The Fight between Cells and the Micrococci of Erysipelas."<sup>1</sup>

From the very first, the presence of bacteria in leucocytes had been noted, but they were regarded as holding the same relation as any other fine molecules which might happen to be present in the circulation. Koch thought the cells served simply as a good nutritive soil, laying special stress on the presence of anthrax bacilli in the cells of frog's blood, although the animal itself was exempt from the disease, while in the death of the tubercle bacillus in the giant cell was seen simply an expression of its naturally short life. For him the excretory organs, above all the kidneys, were the active agents in removing the parasites from the organism. Then, too, the inflammatory reaction exercised a healing influence, although his conception of the exact manner is a little vague.

Our writer has chosen erysipelas in which to study the subject in the higher animals, since it is a disease produced by a well-characterized micrococcus, and usually ending in recovery. The action of the cells cannot be seen here in situ, as in the transparent animals; but still, if they are active therapeutic agents, changes indicative of this should be found in them and their relations after removal from the body and proper preparation.

<sup>1</sup> Vireh. Archiv., Bd. 117, s. 200.

The description of Fehleisen, who first demonstrated the bacterial origin of the disease, seems to substantiate this. Three zones are distinguished by him: The outer shows nothing to the unaided eye, but, microscopically, the lymph spaces are found to be filled with micrococci in active multiplication. Into this runs the second zone of reddening, where the inflammatory reaction is manifested by the presence of numerous wandering cells, which have taken up the micrococci and replaced them more and more. In the third zone the bacteria have entirely disappeared, the small cell infiltration is extreme, and the reaction may be said to have reached its highest point. In the paler parts of the skin, the return to normal has already begun by the re-absorption of the inflammatory products, and is accomplished with great quickness.

In further support of the theory, Metschnikoff himself examined preparations from fatal cases and from those which recovered. In the former, he found a marked accumulation of the erysipelas cocci in the cutis and subcutaneous tissue, always lying free in the lymph spaces and never in the interior of the cells. In the latter cases there was a very different picture. Here the inflammatory infiltration was much more marked, and many of the leucocytes contained bacteria. These lay included in the protoplasm of the cell, partly as streptococci, and partly as isolated round cocci. Occasionally they were surrounded by a clear vacuole, suggestive of the digestive process seen in the cells of the protozoa. All of these phagocytes did not seem to possess an equal power to take up bacteria, since, of contiguous cells, some were loaded and others entirely free. Closer examination revealed, in the former, the presence of granules of varying size and irregular outline, but deeply stained. Between these and the cocci all possible gradations were to be seen, and the conclusion was justified that these finest granules were fragments of the ingested bacteria. In gangrenous parts of the skin, on the other hand, the bacteria were found in abundance between the cells, while the leucocytes were seen to be destroyed, their nuclei transformed into small, irregular granules, not staining, and the cell-bodies into homogeneous, scale-like masses. Thus it appears that between the micrococcus of erysipelas and the leucocytes there is carried on a bitter struggle, which ends in the victory of one or the other.

These, however, are not the only actors in the scene, for the fixed connective-tissue cells also have a rôle. These are distinguished as somewhat spindle-shaped, epithelioid-looking elements, larger than the leucocytes, provided with protoplasmic projections, and having a simple round or oval nucleus, with evident nucleolus, staining but slightly in methylene blue. For these, the name of makrophyte is proposed, while that of microphyte is used to designate the small amoeboid cells with deeply-stained, lobulated, or fragmentary nucleus, and pale protoplasm.

These two kinds of cells have an entirely different function. The makrophytes do not possess the power

to eat up a single bacteria; that is the exclusive privilege of the microphytes. Their function is to take up the weakened or dead elements, and to dispose of them. Often they are so filled with these small cells and fragments, that they look like round or oval conglomerates, in the midst of which the pale nucleus is only to be found on diligent search.

Naturally, these observations must be substantiated by others. But they point in the direction towards which modern thought tends, and give food for reflection as to the possibility of translating into known terms the expression of cellular activity.

#### SUPRA-PUBIC CYSTOTOMY AND OTHER OPERATIONS FOR THE REMOVAL OF VESICAL CALCULI.

AMONG other interesting communications presented to the American Surgical Association at its late meeting in Washington,<sup>1</sup> are three papers upon genito-urinary subjects, which we take pleasure in referring to as excellent contributions on matters which have occupied much attention recently in this department of surgery. The first two, by Drs. Dennis<sup>2</sup> and Packard,<sup>3</sup> deal with the operation of supra-pubic cystotomy, the former treating especially the technique of, and indications for, the operation, the latter detailing some of its uses for purposes other than the removal of stone, and containing, also, the account of several cases.

The account of the improved modern technique is in the main good, and it only occurs to us to offer a few criticisms and additions to it. We cannot agree with the unmodified statement of Dr. Dennis, as reported, that by the distension of the rectum by the rubber bag, and of the bladder by an antiseptic solution, the peritoneum is raised three inches above the symphysis, the fact being that the elevation varies considerably in different cases, sometimes attaining a greater distance, and sometimes being so little removed that it has been wounded by the incision into the bladder. There is but little reported mention in either communication of the attempts with, and successes of, the bladder suture after supra-pubic cystotomy. Dr. Dennis thinks that the wound should be left open in the majority of cases, while Dr. Packard speaks of the use of a single drainage-tube.

In an editorial article appearing in our issue of July 16, 1885, we said, in reference to this subject, at a time when bladder suture had been less perfected, and less often successfully applied than now: "Of vesical suture, then, it may be said that, although it has not yet attained perfection, it is the thing to be sought. Its employment after the extraction of stone or the removal of new growths is still *sub judice*, however, bladder drainage being on trial in competition with it." Since then, the cases followed by immediate

<sup>1</sup> See page 480 of the Journal.

<sup>2</sup> The Exploration of the Bladder by the Supra-pubic Method.

<sup>3</sup> Supra-pubic Cystotomy for Other Purposes than the Removal of Calculi.

union of the bladder wound after application of the suture have multiplied, and the procedure has a strong band of advocates, among whom may be mentioned Ultzmann, Zesas, Von Bergmann, Czerny, Zancarol, Sklifossowski, Rauh, Miculicz, Van Antal, and others; while in this country, Keyes, Stein, Lange, have had successful cases.

It is only fair to say, however, that there are many who think, with Dr. Dennis, that the open treatment is the better method. Trendelenberg is the most extreme advocate of this view, which also numbers among its adherents most of the French surgeons, and Sir Henry Thompson. The value of any form of drainage-tubes, however modified, is beginning to be more and more doubted, and it has been recently shown, in an interesting article by Marc Sée,<sup>4</sup> that they, for the most part, totally fail to prevent the contact of the urine with the wound and surrounding tissues, and are, consequently, better omitted.

In regard to the success of bladder-suture, Schmitz's and Meyer's statistics give its numerical standing. The former's cases include all those published up to 1886, in which the bladder-suture had been applied, fifty-five in number, primary union occurring in seventeen, or thirty-one per cent., of these. The latter shows forty-one cases, with sixteen first intentions, or thirty-nine per cent., of successes, and the number has been largely added to since then. The success of the suture is by no means destroyed by pre-existing cystitis, although its chances may be said to be less good under this condition.

We find no mention in the abstract before us of a step in the technique which is, perhaps, as important as any in averting one of the disasters of the operation, namely, the necessity for leaving undisturbed so far as possible the relations of the tissues about the neck of the bladder. Great care should be taken *not* to try to pull the prevesical fat away from its position, or to bore down beneath the symphysis with the finger or with instruments. The prevesical fat should be divided *in situ*. The neglect of these precautions gives rise to opportunities for the formation of pools of stagnant urine in the pockets so formed, and these are the origin of septic phlegmon, which has always constituted one of the gravest dangers of the operation. We do not think too much stress can be laid upon this point.

The remark made by Dr. Dennis, "That the operation is indicated in cases of tight stricture," seems to us somewhat too liberal, without further modification. There are no doubt cases of stricture in which this procedure will be useful as an ultimate resort. Certainly, however, the attempt might be made of attacking the stricture *in situ* by perineal section, even without a guide, before resorting to the supra-pubic incision. It is not very often that one is obliged to desert the perineal route into the bladder through the stricture on account of insuperable difficulties. Valuable time may be gained also by the well-recognized practice of

aspiration of the bladder in cases of critical retention, as Dr. Packard points out.

It may be worth while also to call attention to one accident that *has* happened and which may be avoided by emptying the rectal balloon previous to incising the bladder, after it has been fixed by tenacula or by a stitch. In the case we have in mind the bladder was pushed to one side by the rectal bag, the rectum presented in the wound, and was incised by the operator, under the impression that it was the bladder.

We are glad that Dr. Packard has brought into prominence the uses of supra-pubic incision for purposes other than the removal of stone. In this aspect the operation has the additional interest of novelty and of a wider field of usefulness, and will tend to make more firm the belief that the operation after the many vicissitudes which it has undergone in the last hundred years has come this time to stay.

The third paper, by Dr. Vander Veer,<sup>5</sup> deals with the classification of calculi with reference to choice of operation. The conclusions reached are, that litholapaxy should be applied to stones of moderate size, but discarded in favor of lithotomy where severe chronic cystitis coexists, no matter what the size of the stone. The author does not think that supra-pubic cystotomy will ever compete favorably with lithotomy, on account of its greater mortality, but acknowledges that it is the best method with which to deal with very large calculi and with some cases of sacculated stone.

The tendency to welcome with injudicious enthusiasm the resurrection of supra-pubic cystotomy, to make its application all but universal, to the detriment of litholapaxy, and we believe also to that of many patients, was becoming so marked in some quarters—especially in Germany, where at Magdeburg, Volkmann said that litholapaxy henceforth would only possess an historic interest, and Koenig and Kramer, at Berlin, though less sweeping in their judgment, seemed to share the same opinion—that we have been glad to notice what seem to us the more just views which have been presented from time to time since these declarations. Gayon has undertaken the defence of lithotomy,<sup>6</sup> in an article, in which after an exhaustive review of the supra-pubic operation, with its modern improvements, and of litholapaxy, his concluding sentence is this: "I shall have attained my end, if I have contributed in common with others, in showing that rapid lithotomy deserves to retain the first place in the treatment of stone in the bladder, and that all surgeons should assist in maintaining it there."

Dr. Vander Veer has brought out the fact again, that with the best showing the mortality statistics of supra-pubic lithotomy cannot be reduced to much below fifteen per cent., while those of litholapaxy vary from two per cent. to six per cent. Until this difference, therefore, is more equalized than at present, the burden of proof will continue to remain with the advocates

<sup>4</sup> *Revue de Chirurgie*, No. 1, January 10, 1887.

<sup>5</sup> To what extent can we classify Vesical Calculi for Operation, with a Report of Cases and Remarks on the Different Methods employed.

<sup>6</sup> *Annales des Maladies des organes Génito-Urinaires*, December, 1886. (Des indications et contre indications de la lithotritie rapide.)

of the supra-pubic operation, certainly so far as anything like a universal application of it is concerned.

With the main conclusions of Dr. Vander Veer's paper we are therefore quite in accord, and his statements seem well and carefully considered.

#### CUTANEOUS ERUPTIONS PRODUCED BY BROMIDE OF POTASSIUM.

GRELLETY has recently read a paper before the Société de Thérapeutique, in which he calls attention to the cutaneous affections which he has often witnessed as a sequel to the administration of bromide of potassium. These are acne, impetigo, eczema, furuncles, ulcerations, etc., often of a severe and obstinate nature; the cutaneous lesion is often accompanied by gastric disorders and great nervous depression, especially in dyspeptics or diabetics, where the kidneys perform their function badly. In cases where the medicine is imperfectly eliminated by the kidneys, it accumulates in the sudoriparous glands and provokes tegumentary lesions; where there is irritation of the mucous membrane (as in bronchitis), the irritation is sure to augment under the use of the bromide, while any existing dyspeptic troubles are sure to be aggravated, especially when the preparation is taken on an empty stomach, or insufficiently diluted. Arsenic is considered the best antidote of bromide, and Besnier is accustomed in his practice to give the two medicines together, that is, three, four or five drops of Fowler's solution with every three, four or five grammes of bromide.

Among the various eruptions produced by prolonged use of bromide of potassium, one of the most annoying is the furuncular, which is especially prone to follow the administration of large doses of bromide in diabetes. In diabetes the secretory function of the kidneys is always damaged, hence it is a mistake in the opinion of this therapist, to give bromide to diabetics, especially when along with glycosuria there is albuminuria.

Grellety concludes that it cannot be too much remembered that there are conditions which render bromide of potassium almost a poison, and that before prescribing it, it is well to be certain that the remedy is not contra-indicated by the constitution, or the peculiar predisposition of the patient. The state of the lungs and the circulation, of the skin, of the digestive tube, and of the kidneys, is to be taken into account before the treatment is prescribed. In patients who perspire little, or whose renal functions are badly performed, bromide should be interdicted altogether.

#### MEDICAL NOTES.

—The *American Analyst* publishes a list of "thirty-nine articles" non-theological, which it obtained from a member of the White-house family, these articles having been recommended, epistolarily, by sympathiz-

ing friends, during the President's late illness with rheumatism. Of course many of these are patent medicines, and others homœopathic remedies, mostly in high dilutions. Many of the others were external applications and included "crude petroleum, and equal parts of skunk oil, rattlesnake oil and camphor spirits."

—One hundred deer, inhabiting the famous Richmond Park, in England, have been killed by order of the official veterinary surgeon, as being infected with rabies. No cause for the disease, in the way of the bite of a dog known to have been mad, is clear, and the grounds for the diagnosis have not yet been given to the public.

—The duration of infectiousness in the acute infectious fevers is placed by Dr. Frederick Pearse (*British Medical Journal*), as follows: Measles, from the second day, for exactly three weeks; small-pox, from the first day, under one month, probably three weeks; scarlet fever, at about the fourth day, for six or seven weeks; mumps, under three weeks; diphtheria, under three weeks.

—Instances are occasionally coming under medical observation, of accidents from the explosion of "syphon-soda" bottles. Whether the casualties are most frequently due to a defect in the quality of the glass, or to the water being too highly charged with carbonic acid gas, or to both conditions combined, is not known. But some very ugly little wounds have been caused in this way.

—On the 17th of April, a memorial ceremony, in honor of the late Professor Schroeder, instituted by the Society for Obstetrics and Gynecology, was held in the Aula of the University of Berlin, at which were present Minister von Gossler, Ministerial Director Lucanus, the Professors of the University, and many others. Schroeder's widow with her nine children and a brother took the place of honor near the marble bust of the deceased, which was encircled by palms and evergreens. The ceremony began with the singing of the choral, "Herr Gott Du bist unsere Zuflucht für und für," after which the memorial address was given by Privat-docent Dr. Löhlein.

—*Science* says that while the assumed fact that plumbers escape disease and infection from the inhalation of sewer-gas is often referred to as indicating the harmlessness of this air or gas, yet were all the facts known, this view would undoubtedly be much modified. A recent occurrence in England would seem to prove that men who follow this trade are not so exempt as is generally supposed. An inquest was held during the past month, in Liverpool, on the body of a plumber's apprentice who had been engaged during the previous week in repairing pipes which connected with a sewer. Quantities of gas came through these pipes, and at the time the young man complained of pain and sickness; in forty hours he died. The medical evidence was to the effect that death was due to the inhalation of sewer-air, and the jury rendered a verdict to that effect.

—The profession of medicine is so overcrowded in Germany, that the general union of physicians has sent a circular to all the directors of gymnasia urging them to dissuade their pupils from a career in which the chances of success are now so limited.

—The United States Consul, at Catania, in his dispatch to the U. S. State Department, dated April 8th, in reference to cholera, states "I am now glad to be able to report that the malady has ceased. The disease was first declared to be cholera on the 28th of February last. Soon after quarantine was established against the island of Sicily by the government of Italy. The people were greatly alarmed, and those who could get away fled. . . . At no time did the disease assume alarming proportions. The greatest number of cases reported in any one day was only seven. The disease seemed to be without epidemic features. The cause was attributed to the water of the wells, which was declared to be infected. The municipal authorities ordered the wells closed. The aqueduct for conducting water to the city from the slopes of .Ætna was completed by the 15th of March . . . and after the 22d of March no more cases of cholera were officially reported. The whole number of cases officially reported was eighty-three, and the number of deaths fifty-one."

The United States Consul, at Callao, in his dispatch dated April 1st, encloses copies of cable messages from Chili, showing that the ravages of cholera in that republic have almost ceased.

—Quarantine officers are warned by the Supervising Surgeon-General, Marine-Hospital Service, against admitting vessels from South America or the West Indies, except on the most rigid scrutiny. The bureau is informed that in two instances vessels have left an infected South American port (and one of these vessels had cholera on board) and put into a West Indian port without quarantine detention. Such vessels usually do not take bills of health.

—The circuit court sitting at Lebanon, Ohio, May 4th, in the case of Dr. Darby against the State, brought up on error, affirmed the decision of the court of common pleas. It will be remembered that the doctor was imprisoned and fined some months since for refusing to testify as an expert in a certain case unless guaranteed the fee of an expert, and the action created an absorbing interest among the medical fraternity throughout the country. The circuit court upheld the decision of that of the common pleas upon technical grounds, and without touching the important question as to whether a physician could be compelled to testify as an expert without receiving the fees of an expert. The fact that the doctor voluntarily attended the examination by the coroner, made him liable to summons as a witness, in the opinion of the court, without regard to whether his evidence should be in the nature of a knowledge of facts or of a professional opinion. The attorneys for the doctor except to the decision, and will carry the case to the Supreme court.

## BOSTON AND NEW ENGLAND.

—The recent course of lectures on the "History of Medicine," delivered by Dr. J. S. Billings before the Harvard Medical School, was well attended by physicians as well as by students, and proved of much interest. There are reports that Dr. Billings may be heard before the Lowell Institute on a similar subject next winter. While in Boston he also gave two lectures to the students of the Institute of Technology.

—The Committee on Education of the Massachusetts Senate, have reported a resolve granting \$100,000 to the Massachusetts Institute of Technology, provided that institution shall secure an equal sum in addition to its present property before December, 1887, when the first half of this grant becomes payable. In consideration of the grant the institute is required to maintain twenty free scholarships, and each senatorial district in the State shall once in eight years, in such alternate order as the Board of Education may determine by lot, be entitled to one scholarship for a period of four years, preference being given to candidates otherwise unable to bear the expense of tuition. In case no candidate appears from a senatorial district, a candidate may be selected from the State at large.

—The Committee on Charities has recommended a grant of \$10,000 to the Carney Hospital, South Boston, and \$10,000 to the Baldwinville Cottage Hospital for epileptics.

—Springfield, Mass., has raised \$130,000 for a General Hospital.

—About fifty cases of a fever, presenting in general most of the characteristic symptoms of typhoid, have occurred among the emigrants recently landed in Boston, from the Allan line steamship *Prussian*. There were several cases on the steamer during the voyage.

—The full bench of the Supreme Court of Massachusetts gave an important decision May 13th, in the suit of Samuel P. Train, *et al. vs.* the Boston Disinfecting Company, holding that a lien exists upon rags for charges of disinfecting when so ordered by the board of health. This was a suit of replevin to try the title to a lot of rags which had been disinfected by the defendant by the order of the board of health for this city, under their well-known regulation of June 15, 1885, since rescinded. The defendant claimed a lien for its charges. The plaintiffs, who are importers of rags, in December, 1885, entered into an agreement with the defendant, whereby the defendant was to disinfect all rags which the said board of health might order to be disinfected at ten per cent. discount from the regular rate of \$5 per ton on the first 500 tons of rags disinfected; fifteen per cent. discount on the first 1000 tons and upward; that the lighterage charges should be deducted from the amount of discount allowed, etc. It also appeared that the rags in suit were imported February 18, 1886, and were ordered by the said board of health to be disinfected by the defendant at the said works, and were received by the defendant for disinfection in accordance with the said order, and were disinfected at or about said date under

a protest by the said plaintiff, in the form of a letter to the board of health, in which the plaintiff says: "In view of all this, and the absence of any evidence or cause to suspect the said goods of infection, we hereby respectfully request of you a permit, duly authorizing the landing of the same, such as we are obliged to produce at the custom-house, under treasury department circular of June 1, 1885, and we respectfully protest against your requiring those rags to undergo any process of disinfection which shall put upon us delay and expense, because the rags are not infected, nor is there any cause to suspect them of infection. But if, notwithstanding, you require these rags to be submitted to some process of disinfection, we respectfully protest against your turning them over to the Boston Disinfecting Company, to be treated by them according to the process heretofore applied by that company to former importations of ours, for the following among other reasons: Because the process of alleged disinfection, as applied by them heretofore, is worthless as a disinfectant of the rags (supposing them to be infected), as adequate and proper tests will clearly show." In overruling the plaintiff's demurrer to the defendant's answer and ordering judgment for the defendant, the court says: "It was competent for the board of health to make the order by which the plaintiff's rags were subject to disinfection, and to impose the expense thereof on the plaintiffs and to subject the rags to a lien thereof."

## NEW YORK.

— During the week ending May 14th, there were reported eleven new cases of small-pox, and five deaths from the disease.

— At a meeting of the Society of Medical Jurisprudence and State Medicine, held May 12th, Professor Jarvis S. Wight, of the Long Island College Hospital, read a paper on the "Legal Responsibility of Surgeons." In the discussion which followed it was the universal sentiment that trials of cases involving questions of this kind should be heard only before juries composed of medical men.

— The untimely death of Dr. E. Darwin Hudson, is a serious loss to the profession. He was cut off by an attack of pneumonia of only a few days' duration, and no man of his years, in the city, had acquired a more enviable reputation as a consultant and clinical teacher; while his character was such as to make him widely beloved and respected. He was graduated from the College of Physicians and Surgeons in 1867, and at the time of his death, (which occurred May 9th, at the age of forty-three years), he was Professor of General Medicine and Diseases of the Chest, in the New York Polyclinic, and Attending Physician to Bellevue and St. Elizabeth's Hospitals.

— The Annual Commencement of the College of Physicians and Surgeons, the medical department of Columbia College, was held at Steinway Hall, May 12th, when degrees were conferred upon 106 graduates. The first Harsen prize of \$500, for proficiency

in examinations was awarded to Ellsworth Eliot, Jr., and the Cartwright Alumni Prize of \$500, for the best medical essay, open to universal competition, to Dr. B. Farquhar Curtis, of New York; subject, "Injuries to the Abdomen and Rupture of the Intestines." Drs. J. Gardner Smith, of New York, and Hobart Ham, of Philadelphia, received honorable mention for their essays. The address to the graduating class was delivered by Gen. Stewart L. Woodford, who said that he wanted all the alumni of the college to feel it their duty in the future years to assist Columbia in the development of the true idea of a university.

## Correspondence.

## A LONG OBSTETRIC RECORD.

PLATTSBURGH, N. Y., May 11, 1887.

MR. EDITOR.—The following "Obituary," taken from the *Vermont Centinel*, of June 4, 1806, published at Burlington, Vt., may interest some of your readers:

"At Somers (Con.) the Widow Mary Sexton, in the 91st year of her age. She practiced Midwifery fifty-five years, and by her records she was at the birth of 3,500 children; was the mother of 11 children, nine of whom are living; grand children and great grand children 121 living to mourn their loss." Yours truly,

D. S. KELLOGG, M.D.

## A SUGGESTION FOR THE PREVENTION OF SEA-SICKNESS.

HARVARD COLLEGE,

CAMBRIDGE, MASS., May 12, 1887.

MR. EDITOR.—Some years ago, whilst studying the feeling of dizziness, I was led to discover the singular immunity from it which deaf mutes, as a class, possess; and in an article published in the *American Journal of Otology*, for October of that year, I ascribed this immunity to the destruction either of the auditory nerves or of their labyrinthine termination. I found, moreover, in deaf-mutes what seemed signs of a possible immunity from sea-sickness; and ventured the suggestion that the semi-circular canals were probably the starting-point of that affection also, and that its symptoms in an ordinary sufferer might perhaps be alleviated by blistering or otherwise counter-irritating the skin around the ears. Later, I thought, that in crossing the English Channel I had prevented an attack of sea-sickness in myself by simply rubbing my mastoid processes with my fingers. I have been unable to get any one else (such is the inertia of the human beings amongst whom our lot is cast!) even to try the experiment—which I should think might succeed in a short voyage even if it failed in a long one. Later, a New York physician (whose pamphlet I have mislaid, and whose name I am ashamed to say I cannot momentarily recall) defended the same theory in a very interesting manner, and, if I remember aright, drew from it similar therapeutic consequences. My present object in writing is to take advantage of a newspaper article which has been sent me, to bring the matter once more before the attention of the profession, and to stimulate experimentation, if possible. The editor of the *Gulf View*, of Cedar Key, Florida, in the number for April 2d, of that Journal, gives the following interesting account of his own case:

"In the year 1859 he received a blow from behind on the mastoid process, just behind the right ear, crushing the outer table of the skull and destroying the delicate nervous portion of the internal ear, including these same semi-circular canals, alluded to, as being absent or negative in deaf-mutes. The immediate consequences of the injury

were, first, the most distressing nausea of a character identical with that of seasickness, which lasted with intervals of ease for two or three days, and secondly, complete destruction of the function of the organ, the ear of that side being totally dead ever after. Shortly after convalescence, the writer made a voyage to Cuba and back, in rough weather, exposed to a very rough sea for six days on the voyage over, and the same time returning, and to his agreeable surprise, though previously very susceptible, he found himself to be proof against seasickness, and the immunity has continued to this day, nearly, twenty-eight years."

This editor adds, having seen some chance allusion to my suggestion in another paper, that, "It would be queer, if from these incidents and inductions, we should arrive at a knowledge of a sure means of obviating the horrors of

the *mal du mer*, which seems not improbable, and the suggestions made by Dr. James of the use of friction, or counter irritation as a remedy, is surely worthy of careful and extended trial, coupled with such other remedies as our improved knowledge of the causes of the disease may suggest. We shall await the result with interest."

Will not you and other leaders of opinion give publicity to this subject and urge travellers to try so simple an experiment? The yachting and travelling season is about to begin. It would seem, if public attention were well attracted to the matter, that by next autumn we ought to have enough cases of trial either to prove or to disprove what at present remains a mere hypothesis. I need not say how glad I should be to receive information either of distinct failure or distinct success.

Very truly yours,  
WM. JAMES.

## REPORTED MORTALITY FOR THE WEEK ENDING MAY 7, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrheal Diseases.	Diph. & Croup.	Measles.
New York . . . . .	1,481,920	760	279	16.25	13.00	2.47	7.93	.52
Philadelphia . . . . .	955,801	468	191	17.22	14.91	1.05	3.57	7.77
Brooklyn . . . . .	745,108	—	—	—	—	—	—	—
Chicago . . . . .	725,000	—	—	—	—	—	—	—
St. Louis . . . . .	420,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	123	34	4.86	13.77	—	—	—
Boston . . . . .	400,000	193	35	9.18	27.54	—	5.67	.81
New Orleans . . . . .	242,750	121	52	27.39	10.79	22.41	.83	—
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
District of Columbia . . . . .	210,000	91	25	12.09	12.09	1.82	1.82	1.82
Pittsburgh . . . . .	210,000	86	37	18.56	13.92	—	5.80	6.96
Montreal . . . . .	186,257	—	—	—	—	—	—	—
Milwaukee . . . . .	170,000	58	30	13.76	15.48	1.72	1.72	—
Providence . . . . .	121,000	38	16	21.04	10.52	7.89	10.52	—
Richmond . . . . .	100,000	39	23	10.24	64.00	2.56	—	7.68
Newport . . . . .	19,566	5	3	20.00	40.00	—	—	6.25
Nashville . . . . .	65,000	16	7	18.75	12.50	—	—	8.00
Charleston . . . . .	60,145	25	7	20.00	4.00	12.00	—	—
Portland . . . . .	40,000	6	3	—	16.66	—	—	—
Worcester . . . . .	68,383	18	4	16.66	22.22	—	16.66	—
Lowell . . . . .	64,051	—	—	—	—	—	—	—
Cambridge . . . . .	59,690	22	7	4.55	18.20	—	—	—
Fall River . . . . .	56,863	28	10	17.85	14.28	7.14	—	—
Lynn . . . . .	45,801	14	1	—	14.28	—	—	—
Lawrence . . . . .	38,825	—	—	—	—	—	—	—
Springfield . . . . .	37,577	—	—	—	—	—	—	—
New Bedford . . . . .	33,383	15	2	26.66	—	—	—	—
Somerville . . . . .	29,992	9	1	11.11	11.11	—	—	—
Salem . . . . .	28,084	13	5	7.69	30.76	—	—	—
Holyoke . . . . .	27,894	9	6	44.44	22.22	11.11	—	11.11
Chelsea . . . . .	25,709	7	4	28.56	14.28	—	—	28.56
Taunton . . . . .	23,674	15	6	26.66	—	—	—	—
Haverhill . . . . .	21,796	9	2	—	11.11	—	—	—
Gloucester . . . . .	21,713	—	—	—	—	—	—	—
Brockton . . . . .	20,783	6	3	16.66	16.66	—	—	16.66
Newton . . . . .	19,759	12	4	16.66	8.33	8.33	—	—
Malden . . . . .	16,407	8	2	12.50	12.50	—	—	12.50
Fitchburg . . . . .	15,375	7	2	—	28.56	—	—	—
Waltham . . . . .	14,699	10	2	—	20.00	—	—	—
Newburyport . . . . .	13,716	6	0	—	16.66	—	—	—
Northampton . . . . .	12,896	1	0	—	—	—	—	—

Deaths reported 2,538; under five years of age 843; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 354, consumption 337, lung diseases 353, diphtheria and croup 102, diarrheal diseases 64, measles 61, typhoid fever 33, scarlet fever 26, cerebro-spinal meningitis 17, malarial fever 16, erysipelas 12, whooping-cough nine, puerperal fever seven, small-pox (New York) seven. From typhoid fever, Philadelphia 12, Boston five, Pittsburgh three, Baltimore and Milwaukee two each, New York, District of Columbia, Nashville, Fall River, New Bedford, Somerville, Salem, Holyoke and Newton one each. From scarlet fever, New York 14, Philadelphia three, Boston two, Taunton four, Pittsburgh, Milwaukee and Holyoke one each. From cerebro-spinal meningitis, New York eight, Philadelphia and Fall River two each, District of Columbia, Milwaukee, Cambridge and Worcester one each. From malarial fevers, New York and New Orleans, five each, Philadelphia, Baltimore and District of Columbia two each. From erysipelas, New York eight, Philadelphia two, Boston and Milwaukee one each. From whooping-cough, New York three, Baltimore two,

Philadelphia, Boston, District of Columbia and Pittsburgh one each. From puerperal fever, New York and District of Columbia two each, Philadelphia, Milwaukee and Nashville one each.

In the 17 cities and greater towns of Massachusetts, with a population of 895,741 (population of the State 1,941,465) the total death-rate for the week was 22.46 against 22.44 and 24.38 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,029, for the week ending April 23d, the death-rate was 21.6. Deaths reported 3,825; infants under one year of age 893; acute diseases of the respiratory organs (London) 357; measles 291, whooping-cough 134, scarlet fever 47, diarrhoea 40, fever 24, diphtheria 21, small-pox (London) one. The death-rates ranged from 14.9 in Birkenhead to 26.4 in Manchester; Birmingham 23.4; Brighton 16.3; Hull 22.3; Leeds 22.7; Leicester 15.7; Liverpool 28.7; London 18.9; Newcastle-on-Tyne 20.6; Nottingham 15.8; Sheffield 22.8; Sunderland 26.6.

In Edinburgh 20.0; Glasgow 25.4; Dublin 31.3.

The meteorological record for the week ending May 7, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, May 7, 1887.	Barom- eter.	Thermometer.		Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.			
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. Min.	Amount in Inches.
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. Min.	Amount in Inches.
Sunday, ... 1	29.92	58.0	66.0	46.0	44.0	70.0	35.0	50.0	N.W.	N.W.	N.W.	23	29	8	C.	C.	C.	—	—
Monday, ... 2	30.21	54.0	69.0	49.0	44.0	54.0	53.0	30.0	N.E.	E.	S.	6	14	4	F.	F.	F.	—	—
Tuesday, ... 3	30.29	60.0	74.0	47.0	67.0	91.0	62.0	73.0	S.	S.W.	S.W.	1	13	13	C.	O.	C.	—	—
Wednesday, ... 4	30.00	69.0	82.0	54.0	78.0	53.0	26.0	52.0	S.W.	S.W.	S.W.	8	16	12	O.	C.	F.	—	—
Thursday, ... 5	30.01	64.0	79.0	55.0	49.0	44.0	54.0	49.0	N.W.	S.E.	S.	8	6	6	F.	F.	F.	—	—
Friday, ... 6	30.25	71.0	61.0	48.0	78.0	81.0	87.0	81.0	E.	E.	E.	4	5	4	C.	C.	C.	1	—
Saturday, ... 7	30.23	48.0	53.0	46.0	78.0	80.0	96.0	85.0	E.	E.	E.	8	8	10	T.	T.	R.	4	.12
Mean, the Week.	30.306	57.7	67.0	49.0				63.0										5	.12

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; N, snow; SL, Sleet; I, Inappreciable.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 7, 1887, TO MAY 13, 1887.

ALEXANDER, C. T., lieutenant colonel and surgeon. Granted leave of absence for four months, with permission to go beyond sea, to take effect May 23, 1887.

HARVEY, P. F., captain and assistant surgeon. Granted leave of absence for four months, with permission to go beyond sea, to take effect June 10, 1887. S. O. 105, A. G. O., May 7, 1887.

BIART, VICTOR, captain and assistant surgeon. Ordered for examination by Army Retiring Board at Fort Leavenworth, Kan. S. O. 107, A. G. O., May 10, 1887.

ELBRIE, F. W., captain and assistant surgeon. Ordered for examination by Army Retiring Board at Washington, D.C. S. O. 109, A. G. O., May 12, 1887.

#### SOCIETY NOTICES.

ANNUAL CONGRESS OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION.—The Ninth Annual Congress of the American Laryngological Association, Academy of Medicine, New York, May 26, 27, and 28, 1887. May 26th. Morning Session at ten o'clock. Roll-call. Reception of Guests, etc. President's Address. Reading of Papers. Evening. Theatre Party (Casino) and Supper (Delmonico's) by invitation of Dr. George M. Leferts. May 27th. Morning Session at ten o'clock, promptly. Business Meeting: Open to Fellows of the Association only. At eleven o'clock, the doors will be opened and the reading of Papers commenced. Afternoon Session at three o'clock. Discussion. Evening. Annual Dinner of the Association at Delmonico's at seven o'clock. May 28th. Morning Session at ten o'clock. Reading of Papers. Afternoon Session at two o'clock. Reading of Papers. Election of Fellows. Ballot for Officers, 1887-8, and their induction into office. Adjournment.

D. BRYSON DELAVAN, M.D., Secretary.

INTERNATIONAL CONGRESS ON INFEBILITY.—The Council of the English Society for the Study and Cure of Infertility, have completed arrangements for an International Medical Congress, to be held at Westminster Hall, London, July 5, and 6, 1887. The object of this Congress is to present and discuss the problems of Infertility Medically, and from a purely scientific standpoint, by the best authorities, thus laying the foundation for a broader and more exact study of this subject. Papers and addresses are promised from a large number of the most distinguished Physicians.

T. D. CROTHERS, M.D.,

Chairman American Committee.

ASSOCIATION OF AMERICAN PHYSICIANS.—The Second Annual Meeting of the Association of American Physicians will be held in the Army Medical Museum Building, at Washington, D.C., June 24 and 25, 1887. Sessions at 10 A.M., 2-20 P.M., and 8 P.M.

GEORGE L. PEABODY, M.D., Secretary.

57 West 38th Street, New York.

THE AMERICAN CLIMATOLOGICAL ASSOCIATION.—The next annual meeting will be held in Baltimore, May 31st and June 1st, 1887.

J. B. WALKER, M.D., Secretary.

1617 Green Street, Philadelphia, Pa.

MASSACHUSETTS MEDICAL SOCIETY. One Hundred and Sixth Anniversary.—The Annual Meeting will be held at 9 o'clock, A.M., Wednesday, June 8, 1887, in Huntington Hall, at the Institute of Technology, Boylston Street (between Berkeley and

Clarendon), Boston. The usual arrangements have been made for the preceding day, Tuesday, June 7th.

FRANCIS W. GOSS, M.D., Recording Secretary.

BOSTON, May 9, 1887.

TUESDAY, JUNE 7, 1887, 10 o'clock, A.M.—The Fellows of the Society are invited to visit the Massachusetts General Hospital, on Blossom Street; the Boston City Hospital, on Harrison Avenue; and the Children's Hospital, on Huntington Avenue.

2 o'clock, P.M.—Meeting in Huntington Hall. Papers will be read as follows: "Tumors of the Bladder," by George W. Davis, M.D., of Holyoke. "Cases of Burns, with special reference to Complications, Sequelae and Treatment," by James E. Cleaves, M.D., of Medford. "Laparotomy for Pus in the Abdominal Cavity and for Peritonitis," by John C. Irish, M.D., of Lowell. "Fracture of the Spine: its Immediate Treatment by Rectification of the Deformity and Fixation by Plaster-of-Paris Jacket," by Herbert L. Burrell, M.D., of Boston. "Observations on the Puerperal Pelvic Ligaments," by Stephen W. Driver, M.D., of Cambridge. "The Relation of Tea Drinking to Disorders of the Nervous System," by William N. Bullard, M.D., of Boston. "Pulmonary Tuberculosis as a Sequel to ordinary Pleurisy with Effusion," by Herman F. Vickery, M.D., of Boston. "The Surgical Treatment of Chronic Empyemas," by Maurice H. Richardson, M.D., of Boston.

EXHIBIT.—At the Institute of Technology, during Tuesday and Wednesday, there will be an exhibition of official pharmaceutical preparations, instruments, surgical appliances and apparatus.

WEDNESDAY, JUNE 8, 1887, 9 o'clock, A.M. The One Hundred and Sixth Annual Meeting.—I. Secretary's Report and Report. II. Treasurer's Report. III. Medical Papers and Communications: "A Contribution to the Study of the Etiology of the Summer Diarrhoea of Infants," by Henry C. Haven, M.D., of Boston. "Septic and Antiseptic in Summer Diarrhoea," by S. Allen Potter, M.D., of Roxbury. "Training Nurses," by Alfred Worcester, M.D., of Waltham. "The Value of Public Health Measures to the State," by Samuel W. Abbott, M.D., of Wakefield. IV. Introduction of Delegates. (Intermission of fifteen minutes).

12 o'clock, P.M.—The Annual Discourse, by George J. Townsend, M.D., of South Natick. The hall doors will remain closed during the delivery of the discourse.

1 o'clock, P.M.—The Annual Dinner will be served in the Skating Rink, on Clarendon Street, near Boylston, to which place the Fellows, called in order of seniority, will walk in procession.

COUNCILOR'S MEETINGS will be held during the ensuing year at the Medical Library, No. 19 Boylston Place, Boston, as follows: I. The Annual Meeting, at 7 o'clock, P.M., Tuesday, June 7th. II. A Stated Meeting, at 11 o'clock, A.M., Wednesday, October 5th. III. A Stated Meeting, at 11 o'clock, A.M., Wednesday, February 1, 1888.

THE ANNUAL CONFERENCE OF CENSORS will be held at 2.30, P.M., Tuesday, June 7, 1887, at the Medical Library, No. 19 Boylston Place, Boston.

CENSOR'S MEETINGS.—The Censors for Suffolk District, officiating also for the State Society, will meet in Boston, for the examination of candidates on Thursday, June 2, 1887, and on the Third Thursday of September and of December. But they cannot examine any candidate who is already a resident, or in practice, in any District other than Suffolk. Their meetings will be duly advertised in the *Boston Medical and Surgical Journal*. In the other Medical Districts the Censors will hold their meetings for the examination of candidates residing in their respective Districts, and none other, at the same place and on the same day as the stated meetings of the District Societies.

## Original Articles.

CASES OF MULTIPLE NEURITIS.<sup>1</sup>

BY CHARLES F. FOLSON, M.D.,  
Visiting Physician, Boston City Hospital.

ALTHOUGH primary, multiple, degenerative neuritis has been recognized and described for twenty years or more, very little attention has been given to the disease until within five years. The first cases fully recognized in Boston, or, at least, reported, so far as I know, were four years ago, when there was quite a number of idiopathic cases in this city, and the disease prevailed also in several stables, among horses.

Among the cases which I have seen there have been three types: (1) Idiopathic, in regard to which the opinion now prevailing is that the disease is of infective origin, analogous to beriberi. (2) Toxic. (3) Purely rheumatic, like Bell's palsy. I will describe only a few typical cases, alluding briefly to others.

C. R., a Swede, thirty-eight years old, married, a rigger and sailor, entered the Boston City Hospital, in my service, July 6, 1886. A week previous he was on deck, in an exciting yacht race, in his stocking-feet, and got his feet and legs thoroughly wet. In the evening he thought that he had taken cold. The next day his legs felt heavy, and he could not go aloft, but worked on deck. The following day he went home and took to his bed, complaining of severe pain in the small of the back, knees, ankles, and feet, moderate headache, loss of appetite, nausea, and excessive thirst. He had, also, a slight chill. He complained of a dead feeling in his legs, and said that he could not walk. He could not sleep from pain in his limbs and joints, and restlessness. Two days after the trouble in his legs his hands felt numb, and his arms were observed to be weak; and still two days later, he began to have difficulty in drinking, on account of inability to tightly close his mouth. He thought that his speech was altered, being somewhat thick. He had perspired excessively.

The patient was a strong, well-developed, and well-nourished man, without ascertainable hereditary predisposition to disease, a moderate drinker, and, according to his statement, without a previous history of syphilis.

On examination, there was no evidence of disease of the thoracic, abdominal, or pelvic organs, nor of the brain and spinal cord. Temperature was 99.4°, pulse 96, respiration 32. Tongue slightly coated, moist; protruded straight, but only as far as about one-quarter of an inch beyond the line of the teeth. The eyelids failed to close by about the space of one-half an inch, and the lips by one-quarter of an inch. No affection of the motor muscles of the eyeballs; pupils not abnormal. Speech decidedly thick, cheeks puffed out a little, eyebrows cannot be raised. The grasps of both hands were weakened and nearly equal. The arms could be moved freely, but not used. The legs could be moved only very slightly.

There was some sensation of prickling, very slight, in the feet, and a numb or "dead" feeling in hands and legs. Superficial sensation was somewhat impaired in the feet, and very slightly in the legs; elsewhere unimpaired, except for some cutaneous hyperaesthesia in thighs, arms, trunk, and face. No diffi-

culty in respiration. The disease was very nearly symmetrical; if any difference, the left side was slightly more affected than the right.

The urine was normal, of specific gravity 1026. The bowels were constipated, micturition normal, spleen not manifestly enlarged; no pain or swelling in any joints. On lying still in bed, there was no pain anywhere, but motion of the legs was painful, and pressure, even moderate, over the nerve-trunks, and in the course of the nerves in the legs and thighs, gave rise to exquisite pain. There was no evident muscular atrophy. The chin-arm and knee-jerks were absent, and there was no response from the plantar, epigastric, and abdominal muscles; very slight from the cremasteric.

In the course of the disease, the pain became so extreme that subcutaneous injections of morphia and laudanum externally were used freely for three months. The tenderness on pressure over the course of the nerves, from the shoulders down, became everywhere excessive. There was also great pain in opening and closing the jaws, and tenderness on pressure over the motor branch of the fifth pair. The paralysis gradually reached a point where the patient could not turn in bed from his back to his side, or move his legs. The fingers closed only faintly in the motion of grasping. The wrist-drop was not very marked. The paralysis of the extensors of the feet was absolute, so as to require the use of foot-splints. There was extreme loss of flesh in the legs, and generally considerable quantitative lowering of electro-muscular contractility, and, finally, lack of response in extensor muscles and some others to either current, faradic or galvanic. The bowels became most obstinately constipated. There was troublesome retention of urine, but not sufficient to require the catheter. There was also a small bed-sore.

The mental condition was of a mild stupor, approaching delirium, to the extent that, for a few weeks, the patient's statements with regard to anything which had happened several hours previously could not be depended upon. The aspect was distinctly typhoidal. The spleen was not found to be enlarged at any time. A very mild degree of anaesthesia, just noticeable, extended, in time, over the thighs, trunk, and arms, and it increased in the legs and feet.

At the end of the first month the tongue was nearly clean, and slight improvement was observed in the hands and face.

At the end of the second month, the patient could move his arms pretty well and close his fingers in a grasp, but not exert force. He had very little trouble in eating, as he could close his lips, and there was no pain in chewing. There was some tenderness on pressure over the motor branch of the fifth pair, but scarcely any over any of the nerves of the arms, chest, trunk, abdomen, or thighs, but excessive over those of the legs. He could almost close his eyes, and could move from side to side, but not sit up. There was no soreness on motion, but the pain in the legs still required opiates, especially at night. The flexor muscles of the forearm reacted to the faradic current; the extensors, the quadriceps femoris, and all of the leg to neither current. Massage was begun, and, three weeks later, galvanism, beginning where extreme tenderness on pressure had disappeared, galvanism following massage, until both were gradually extended over the whole body.

<sup>1</sup> Read before the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, April 13, 1887.

At the end of the third month, marked and steady improvement had been observed everywhere, except in the legs. There was complete ankle-drop; and the muscles of the thighs and arms, but especially of the legs, were very much wasted, soft, and flabby. There was still great tenderness on pressure over the calves, but there seemed to be no well-marked diminution of sensation, except in the feet, and that not very great. Two weeks later he was sitting up daily, and in another week there was scarcely any tenderness anywhere on pressure in feet or legs.

A little after the close of the fifth month, the foot and toes were seen to move, for the first time, on the right side, and the tibialis anticus and gastrocnemius muscles contracted. In a few days, similar observations were made of the left foot and toes; but, at the end of the sixth month, he was still unable to stand. A week later he began to walk, with support, and two weeks after that he could walk alone. Two weeks later still, he was discharged at his own request, that is, about a week after the seventh month of treatment. All the muscles, at that time, reacted to galvanism, although in degree considerably below the normal in the legs and feet, less so in the arms. He could raise his feet and toes, although they dropped somewhat in walking.

At the end of the ninth month he had regained his usual flesh, and, except in his legs, he said, his usual strength. He could walk perfectly well on a level, but, going up or down stairs, or over curbstones, needed a cane or some similar support. I found him, after some difficulty, on the street, and could not make a full examination. The knee-jerks were still absent, but the patient expects to go to work soon.

In accordance with my previous experience in such cases, I found very little benefit from salicylic acid or the salicylates in treatment, but the pain always diminished after using quinine in full doses.

As regards diagnosis, the muscular wasting and electrical reactions exclude Landry's paralysis, which is, I believe, now accepted to be a rapidly fatal form of myelitis; the gradual invasion of one group of muscles after another, with sensory disturbances, and the pain and tenderness on pressure, exclude anterior poliomyelitis, and no other diseases would suggest themselves. After admission to the hospital, the temperature did not exceed 100° F., nor the pulse 102. But the febrile symptoms, and typhoid appearance and mental condition, place the case among the infective diseases, and, therefore, in the first group of idiopathic, primary, multiple, degenerative neuritis.

Although there was a previous history of exposure to wet and cold in this case, there has not been such in my other cases. Judging from previous experience, the prognosis in this case seems to me favorable for the reappearance of the knee-jerk and ultimate greater improvement, if not entire restoration of function in the legs, but probably not for some months, and possibly, not within a year or two.

I have not been able to make out any distinct enlargement or hardness of any of the nerves in these cases. Indeed, the exquisite pain prevented an examination careful enough to settle these points.

Of the toxic cases, I am not sure that I have ever seen arsenical multiple neuritis. At least, the diagnosis was not confirmed, or otherwise, by chemical examinations of the wall-paper or urine. Those due to lead are readily diagnosed by the usual methods

of testing for its presence in the urine. A previous history of syphilis, especially after a rapid relief by mercury or iodide of potassium, of course, justifies the assumption that the case is syphilitic. Cases after the infective-diseases, especially typhoid fever and diphtheria, are reported, and have been probably seen by most of us. In the course of chronic disease of the lungs and kidneys, especially in the late stages, they are not very uncommon. One of the most distressing forms of multiple or general neuritis, and perhaps the most hopeless, is due to the long-continued abuse of the preparations of opium. Where it exists the abandonment of the opium habit and its continuance are so nearly equally painful and fatal that there is little choice between them. By far the most frequent source of toxic general neuritis, however, is alcohol; and cases occur in all degrees of severity, of which I shall report two, one at each extreme.

Mr. —, a literary gentleman, just beyond middle age, born in Europe, came to this country with the habit established of drinking a pint of claret with his dinner. Under the press of heavy work, he increased his pint of claret to a quart, and drank a half-tumbler of whiskey at bed-time. He also used tobacco freely.

On account of some failure in eyesight, not excessive, impaired facility of using the legs, which was troublesome in going up and down stairs, etc., but otherwise not considerable, a dull pain in the thighs and legs, disappearance of the knee-jerks, and marked swaying of the body with the eyes closed, the confident diagnosis of locomotor ataxia had been made. There were some slight anesthesia and parasthesia. I could not find any symptoms that seemed incapable of explanation from the alcoholic history, although the patient had never been intoxicated in his life and had never been conscious of taking alcohol to excess. There was some, though slight, tenderness on pressure over the course of the nerves in the legs. The alcoholic habit was given up; in a year the knee-jerk had re-appeared and the symptoms suggesting the diagnosis of posterior spinal sclerosis were gone. This mistake is, I think, a not very infrequent one, and occurs, too, in multiple neuritis due to syphilis or lead. I have also seen cases of locomotor ataxia where there seemed to me to be symmetrical peripheral neuritis, to the relief of which I attributed great temporary improvement in the symptoms.

M. H., single, twenty-six years old, employed in a bar-room, entered the Boston City Hospital, August 12, 1886. His father died of rheumatic fever. Eight years previous to admission patient had typhoid fever and once fell unconscious in a fit after drinking heavily. He had been a hard drinker for many years, and for a week past had been sleepless and without appetite, drinking steadily. After sleeping in a cellar, drunk, he awoke with severe pains in his head, back, and entire left side.

On entrance he appeared well developed, and fairly nourished. Temperature 100.4°, pulse 104, respiration 28. Tongue rather dry, slightly coated. Bowels constipated. Urine, a trace of albumen. The examination of thoracic, abdominal and pelvic organs was negative.

Pupils of moderate size, right somewhat larger, both react fairly well; marked nystagmus on looking to either side; motion of left eye outward somewhat limited. Some tremor of fingers, left grasp weaker than right. Coördination good. Sensation unim-

paired in head, arms and trunk. In both legs below knee are one or two areas of diminished sensation. Left knee-jerk nearly, if not quite absent; right very weak. Superficial reflexes well marked. Slight tenderness along nerve-trunks in both legs and right thigh, possibly somewhat in forearms. Mental condition not remarkable.

13th. Increase of pain in arms, legs, chest and abdomen. Marked tenderness over course of nerves in legs, arms and intercostal spaces. Complaints of numbness in hands, but there is no diminution of sensation. Both grasps distinctly weak. Considerable loss of power in extensors of feet and toes. Knee-jerks absent.

14th. Last night became very delirious and actively violent, requiring restraint, and during which he became unconscious of pain or tenderness. Somewhat quieter this morning, but still delirious and constantly talking. Excessive muscular tremor. Takes nourishment fairly well.

15th. In a mild semi-delirious state, picking clothes, etc.; very weak, with feeble pulse. Extreme sensitiveness to pressure over course of nerves everywhere but in the head and neck; screams with pain with the least touch or movement of the body and limbs.

16th. Is still quite delirious, complaints of soreness and pain all over; marked anaesthesia especially in legs.

21st. Marked loss of power in legs and some in arms. Toes drop. Over both buttocks are abrasions of skin, superficial, size of dollar. Urine and faeces passed in bed. Mental condition quite suggestive of the final stage of general paralysis.

25th. Loss of power in arms and legs seems greater.

28th. Complete wrist- and toe-drop. Is more delirious, the delirium frequently being of a tearful and painful character; often shouts in imaginary conversation. Eats well. Extreme sensitiveness on pressure over the nerves; muscles very flabby, with very little power of movement in muscles of arms, legs and trunks.

September 2d. Constant hallucinations of sight and hearing. Has no idea where he is, and most of the time recognizes no one about him; has been seen to put faces in his mouth. Cannot turn over in bed without help.

5th. Bed-sore over right buttock, irregular in outline, superficial, about two inches in diameter. Small abrasion over left buttock. Habits very filthy. Distinct nystagmus noted at times. Sleeps but little.

8th. Can now turn himself in bed and feebly extend right wrist. Mental condition no better. Sleeps poorly. Takes any food given him.

18th. Is delirious all the time when awake, and thinks he spends his time in the woods, down by the wharves, and on long walks in the country. Last night restless and noisy, and rolled out of bed. Cannot walk on hands and knees.

23d. Less noisy. Bed-sores improving.

29th. In general, seems to be improving somewhat.

October 6th. Is able to extend right wrist slightly. Grasps very weak, but growing stronger. Still marked sensitiveness over nerve-trunks, especially in legs. Feet completely dropped, but there is some power of voluntary motion in toes. Very marked general wasting; flabbiness of muscles. Mental condition decidedly better; eats and sleeps well without opiates. Can turn in bed. Anaesthesia very moderate and chiefly in the feet and lower part of legs.

13th. Quieter and more rational; eats and sleeps well.

17th. Memory extremely poor, but shows no delusions.

22d. In general, is improving physically and mentally, and in good spirits.

27th. Gaining both in motion and sensation of extremities. Tenderness over nerve-trunks much less.

31st. Still some tenderness over nerve-trunks. No evident impaired sensation. Knee-jerks absent. Feet and toes dropped, but both can be moved and raised a little. Grasps weak but about equal. Elbow-jerks present. Muscles of limbs thin and very flabby.

November 24th. Gradually gaining; still considerable tenderness in legs and pain on motion. Some motion in both feet and toes.

December 21th. Improvement continues; can walk a few steps without assistance.

January 10th. Quite comfortable; complaining of some pain in lumbar region and left hip. Otherwise pain and tenderness on pressure gone.

16th. Improving rapidly, is up and dressed daily, and can walk quite well. Muscles react fairly well to galvanism.

18th. Discharged at his own request, and I have not been able to learn anything of him since that time.

The treatment in this case consisted of rest in bed, abundant food, opiates very freely, the actual cantry and small blisters over the course of the most painful nerves, and, later, after the soreness on pressure had nearly disappeared, massage and galvanism. The reaction to both currents in this case was decidedly diminished, but the reaction of degeneration was not found.

As illustrations of what I supposed to be purely rheumatic cases, and, perhaps, throwing some light on the question of pathology, I will very briefly report two cases:

The first was of a young man, who got drunk, lost his way, and slept in the woods in the snow, his shoulders having been particularly exposed. On awaking, he had severe pain in his shoulders and arms, which gradually increased, so as to become most intense, and increased by motion of the arms, with tingling and numbness in the hand and fingers. There was almost entire paralysis when I saw him, a few days later, diminished reaction to the faradic current, and extreme tenderness on pressure over the nerve-trunks. With rest, warm anodyne fomentations, quinine in large doses, and later, rubbing and electricity, there was complete recovery in six weeks.

The second was a young carpenter in Newport, kindly sent to me by Dr. Engs, of that city. After working all the afternoon, wet through in a cold rain, he spent the evening with his wet shirt on, after having changed his other clothing. The next morning he had severe pain in his arms, which soon increased to a degree which was quite excruciating, and lasted for several weeks. Whether there were other sensory symptoms or not then, I could not ascertain: I saw him three months later, and found marked atrophy and extremely limited power of motion in both shoulders and arms. The pain had subsided so as not to be especially troublesome, and there was not marked tenderness on pressure over the nerve-trunks. There was some reaction to the faradic current, and no marked sensory disturbance, that is to say, inflammation had subsided, and processes of recovery or of degeneration were to begin.

At the time of the examination, the patient's condition might have been explained by a diagnosis of an-

terior poliomyelitis; but, with the history, considering it a case of neuritis, I gave a favorable prognosis. He was sent to the Massachusetts General Hospital for convenience of treatment, and in three months returned home somewhat improved. He gained steadily at home, and when I saw him, a year later, there was scarcely any atrophy of the arms, and he had very good use of them. His hands were still not sufficiently recovered to resume his trade, although he could use them freely in eating, dressing, and plain work. The extensors of the hand were mostly at fault, but as they were capable of contraction and some usefulness, I gave as a prognosis that, in a couple of years more, the patient would be likely to have quite useful hands, so as to be able probably to resume his trade.

The pathology of these various cases has not yet been so far investigated as to place it on an entirely substantial basis. That they have many features in common is evident.

So far as I am able to learn, post-mortem examinations in cases of primary multiple neuritis have not thus far shown disease of the brain or spinal cord, which has not been acknowledged to be insufficient to produce the symptoms, and in most cases there has been no central lesion found; the evidence being that the disease is primarily an interstitial peripheral neuritis, that in mild cases the disease goes no farther, and that in severe cases there is also parenchymatous inflammation, and more or less degeneration of nerve-fibres. Both processes are capable, in time, of a great degree of regeneration, or, at least, of restoration of function. The distinct sensory symptoms with which the disease is commonly ushered in usually soon nearly disappear, except pain and marked anesthesia is a rare exception in the disease. We are driven, therefore, to suppose (1) that there is an undiscovered central lesion; (2) that there is a functional central disease giving rise to the neuritis, as Erb holds; (3) that Leyden and Oppenheim are right that the central lesions thus far observed result from ascending neuritis, or form a part of the morbid process in the nerves, without giving rise in themselves to any special symptoms; or finally (4), with Strümpell, that primary multiple neuritis affects chiefly the motor fibres—a supposition analogous to Westphal's theory that the motor fibres or cells in the cord may be sensibly diseased without affecting those governing nutrition of the muscles.

Alcohol has an affinity, so to speak, whether from a common microorganism or not, for the brain and spinal cord, as well as for the nerves, and clinical evidence, supported by a certain number of autopsies, supports the theory that many, at least, of the cases of alcoholic and lead neuritis are complicated with more or less cerebral or spinal disorder, or both. That a central lesion, cerebral or spinal, may not ultimately be found to be a necessary factor in the idiopathic and other forms of the disease, of course, I am not prepared to say.

There are cases, also, doubtless, which are primarily subacute or chronic parenchymatous degeneration of the nerve-fibres, without marked symptoms, except loss of power, or impaired sensation. Perineuritis also occurs, and there are mixed cases.

There are now four cases of leprosy in Minnesota as against six in 1884.

#### FOUR HOSPITAL CASES.<sup>1</sup>

I. TUBERCULAR PERITONITIS, WITH PERFORATION OF THE ABDOMINAL WALL. II. CIRRHOSIS OF THE LIVER. III. HÆMOPHILIA. IV. TETANY.

BY F. C. SHATTUCK, M.D., BOSTON,  
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I. TUBERCULAR PERITONITIS; SLOUGHING OF THE UMBILICUS AND FISTULA.

P., TWENTY-FOUR years of age, entered the hospital, June 21st. A sister died of phthisis. About a year before entrance the patient began to suffer from attacks of abdominal pain, distension and tenderness, lasting five to ten hours, and relieved by bilious vomiting. These attacks recurred at intervals of about a month. The last was four weeks before entrance; he did not rally from it but felt poorly, lost flesh and strength, and had moderate diarrhoea much of the time. He had no cough or other pulmonary symptoms. Pulse 100.

Physical examination showed slight consolidation at the right apex without softening. In the umbilical region a rounded cake-like tumor with irregular surface, four inches in diameter, and apparently covered over by intestine, was felt. On the right side of the tumor and in the right iliac fossa, tenderness was marked. Diagnosis: tubercular peritonitis.

July 3d. The patient was evidently weaker. Moderate fever was constant with evening exacerbations. The abdomen was more distended, peritoneal crepitus could be felt; night sweats, occasional vomiting, and abdominal pain were noted. The scanty sputum was examined for bacilli with a negative result.

July 14th. Several days before this date it was noticed that the skin about the navel was getting red and edematous. On this date a small perforation took place through which with each inspiration was emitted offensive gas, on deep inspiration offensive greenish fluid; during the act of vomiting this fluid was ejected with force.

July 18th. The fistula gradually enlarged, and the patient was transferred to the surgical side.

July 19th and again on the 22d, dejections of normal consistency passed the rectum, the only discharges of any kind through that outlet between the appearance of the perforation and death, which took place July 28th, from exhaustion.

*Autopsy.* The right pleural cavity was obliterated by old adhesions, a few of which were also found on the left side. The apex of the right lung was thickened, shriveled and dense; on section, numerous small gray tubercles, and some pigmented fibrous tissue were seen. Throughout both lungs there were occasional cheesy patches, a half-inch or more in diameter, some of them partially softened, surrounded by deeply injected borders containing milium tubercles.

A fistulous opening through the umbilicus contained a drainage-tube entering the peritoneal cavity partially obliterated by old adhesions. This encysted cavity extended upwards beneath the right lobe of the liver, and downward on the right to the pelvis, containing masses of necrotic fat tissue (omentum), and several ounces of offensive fluid; it communicated with the rectum above the internal sphincter by an opening in the anterior wall half-an-inch in diameter. The intestines contained tubercular nodules and ulcerations, chiefly in Peyer's patches.

<sup>1</sup>Read before the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, April 10, 1887.

The pathological diagnosis was then as follows: Chronic pulmonary tuberculosis, acute bronchitis, tubercular peri bronchitis, chronic tubercular peritonitis and enteritis, umbilical fistula, perforating ulcer of rectum.

The special reason for reporting the case is the comparative rarity of spontaneous perforation of the abdominal wall in tubercular peritonitis. The seat of the perforation was also somewhat remarkable, the strong fibrous structures of the umbilicus being completely destroyed.

## II. CIRRHOSIS OF THE LIVER; ASCITES ABSENT UNTIL A FEW DAYS BEFORE DEATH.

A widow, forty-nine years of age, entered my service October 9, 1886; she was the mother of nine children, the youngest thirteen years old. She had never had any special illness, but had overworked herself from time to time, and been obliged to go to bed for several days to rest. The past two or three years these periods of overstrain had been more frequent.

About three months before entrance she had an attack of "dysentery" with pain, bloody discharges, and tenesmus. The blood in the stools was quite abundant and persisted for three weeks; during the first week of her illness she vomited blood several times in considerable quantities; she was six weeks in bed. Since she got up there had been no recurrence of hæmorrhage; but the blood loss was not made up and she steadily lost in flesh and strength, and was entirely unfit for any work; nausea and vomiting after taking even small quantities of food, unattended by any pain, had been prominent symptoms. The two days before entrance vomiting was still more frequent, and she again passed blood from the bowels, but this time without pain and the blood in clots.

The patient was very anæmic, very slightly jaundiced, and the skin over the neck, arms, and body contained capillary dilations. The hepatic dulness was increased in width both upwards and downwards, and the edge of the liver was distinctly felt an inch and a half below the ribs; its surface was lacking in smoothness. The abdomen was distended with gas, but no ascites could be positively made out. The spleen was not enlarged. The urine contained a small trace of albumen and a few casts. A very loud systolic soufflé was heard over the heart, loudest in the pulmonic area; over the apex a thrill could be felt, but there seemed to be no enlargement of the organ. Diagnosis: cirrhosis.

October 10th. Passed a large blood clot and about 3iii. of fluid blood with fæces.

October 11th. There was now unmistakable ascites, the liver could no longer be felt, the diaphragm was pushed up, and there was slight œdema of the abdominal wall and feet. The vomiting continued from time to time, but there was no recurrence of hæmorrhages of any kind.

October 14th. The ascites had increased rapidly, and caused so much distress that she was tapped. After the withdrawal of the fluid the roughness of the liver surface was distinct, and the contour of the lower edge of the organ could be well made out. Considerable relief followed the tapping, but the patient gradually failed in strength and October 16th, six days after entrance, she died.

A full autopsy could not be secured, but my efficient house-officer, Mr. L. T. Stevens, succeeded in ex-

tracting the liver, in two portions, and some of the other organs through the rectum.

The heart was normal and showed no anatomical explanation for the very loud murmur heard during life. The lower portion of the ileum and upper part of the colon were full of black, tarry material. The liver was not materially altered in size and was eminently cirrhotic. The spleen was increased in density, though not in size. The kidneys showed moderate chronic interstitial changes.

It is a matter for regret that it was impossible to make the autopsy in the usual way. To remove the liver through the rectum it was necessary to cut it in half, and the precise condition of the portal vein and its main branches was thus impossible to make out. The extreme rapidity with which ascites appeared and progressed suggests the possibility of its dependence on thrombosis of the portal vein. The severe intestinal hæmorrhages showed that great portal congestion had existed for some months, and it also seems possible that in the occurrence of free bleeding is to be found an explanation of the late advent of ascites, the hæmorrhage relieving the stasis.

## III. HÆMOPHILIA.

H., a clergyman, fifty-two years of age, entered the hospital, July 12, 1886, for tonsillar abscess, of which he had had several previous attacks. The first was treated by incision, which was followed by hæmorrhage that did not finally cease until six weeks had elapsed. In a day or two after entrance the abscess broke, and the day after this he began to pass bloody and smoky urine, the source of which the microscope showed to be the kidneys. He reported that hæmaturia had followed each previous attack of parenchymatous tonsillitis, and was also brought on by unusual mental excitement or exertion. In all, he thought he had had as many as one hundred and fifty attacks. If he kept quiet, and drank large quantities of water, the bleeding generally ceased in five or six days, but if he worked, it lasted from twenty to thirty. When a child, slight knocks produced large, black-and-blue, painful swellings, which were slow to subside. When twenty-one years of age he had an epistaxis which threatened life, but bleeding from this source has never recurred. The tendency to bleed has, he thinks, diminished as he has grown older, but slight cuts are still followed by free and persistent hæmorrhage. No history of hæmophilia in either parent or grandparent could be obtained; all were long-lived. Of his seven brothers and sisters, one brother shows this tendency, and a sister's son exhibited the hæmorrhagic diathesis to a marked degree, finally dying of persistent hæmaturia.

Hæmophilia, like color-blindness and pseudo-hypertrophic paralysis, is transmitted through the females of a family, the females themselves generally escaping. The tendency can thus oftentimes be followed through many generations. My patient is an unusually intelligent man, and the fact that he cannot trace the diathesis behind his own generation is one reason for reporting the case.

## IV. A CASE OF TETANY (?)

A stable-boy, nineteen years of age, of good family and previous personal history, entered the hospital September 30, 1886. He was muscular, well built, and ruddy. He said that for the past year there had

been slight, but constant, stiffness of the jaw, which had not hindered speech or mastication, but had been sufficient to give him a constant desire of moving the jaw from side to side, and this had now become a habit.

The day before entrance, without any assignable cause or any warning, the stiffness of the jaw increased very much, the hands and forearms became numb and rigid; also the legs, to a less degree. This was soon followed by general tremor. The whole attack lasted some twenty minutes. During the attack he had a dull feeling in the back of his head, whence the numbness and stiffness seemed to start. There was no loss of consciousness or disturbance of vision. He had three such attacks yesterday, and two to-day. In the intervals between the attacks he felt perfectly well.

On entrance, the patient was in the midst of an attack, and was reported as having a chill. The temperature was 99.4°. By the time the house-officer reached him the attack had nearly passed, and his condition was as follows: He was much excited, free from pain, but complained of a disagreeable, indescribable sensation over the whole body. The pulse was rapid and strong, the breathing quickened. The expression of the face was peculiar, suggesting the *visus sardonicus*. The masseter muscles were hard to the touch; speech was difficult; there was marked stiffness of the arms and hands, the fingers being semi-flexed. Efforts to straighten the fingers encountered resistance, and caused slight pain. The legs were also somewhat rigid.

October 1st. I saw him for the first time. During the night he had had an abortive attack. Examination of the internal organs gave entirely negative results. As I finished testing the reflexes, which were not remarkable, an attack came on, preceded, for a few moments, by discomfort, slight mental excitement, and forced respiration. Stiffness then came on in the hands, arms, and fingers, which were all semi-flexed; the thumbs were held firmly between the first two fingers. The spasm was tonic, with slight tremor at times, and forcible attempts to counteract it caused pain. The mind was perfectly clear, and the patient was positive that he had no real pain, though decided discomfort was caused by the rigidity of the muscles. After fifteen or twenty minutes the stiffness disappeared entirely. Whether this result was furthered in any way by the inhalation of a little ether, I cannot say.

He was put on a full dose of bromide and chloral, every three hours, for several days. Slept nearly all the time, and had no more attacks, either spontaneously on testing the reflexes and the electrical reactions, or during pressure on the brachial artery and nerve. There was no increased electrical reaction of the muscles, the current being passed through the nerve.

October 9th. The patient was discharged, apparently well in every respect, except that slight stiffness in the jaw persisted.

The diagnosis seemed to involve the consideration of only three affections: tetanus, hysteria, and tetany.

The feature of the case which is chiefly suggestive of tetanus is the stiffness of the jaw, but this had been present for a year: this fact, with the absence of rigidity of the neck and back muscles, and the transitory character of the attacks, with entire freedom from symptoms in the interval, warrant us in excluding tetanus.

Hysteria is not so easily, and I do not feel that it

can be positively excluded, especially as Dr. Weir Mitchell, to whom I very briefly stated the case, thought it probably of that nature. But, apart from the attacks, there was nothing whatever about the boy to suggest hysteria. He dreaded the attack, as, indeed, do hysterical women oftentimes, for that matter. During the attacks he was perfectly reasonable, and he was glad to be discharged from the hospital. In the diagnosis of hysteria, the impression which the individual makes upon the observer counts for something, and this impression was, in the case before us, opposed to such a diagnosis. Moreover, the diagnosis tetany, in a mild form, explains very well the symptoms.

Tetany is a disease which is so rare with us — I can find no mention of it in Pepper's "System of Medicine" — that I may be pardoned for the following brief description of it: First described by Dance, who called it "intermittent tetanus," the term "tetany" was first applied to it by Corvisart, and later, adopted by Trousseau, who also called attention to its comparative frequency in nursing women. It is classed as a neurosis, affects young adults by preference, and is characterized by intermittent, tonic contractions, rarely of the trunk and face, most frequently of the upper extremities, and chiefly of the flexor muscles, the intellect always remaining clear. It is bilateral. The attacks are generally preceded by somewhat ill-defined prodromata, and recur at variable intervals during periods of a few days to months. In the intervals between the attacks, patients appear well. Trousseau first showed that attacks may be brought on at will by pressure on the nervous and arterial trunks, the spasm ceasing as soon as the pressure is relieved. Erb has shown that the muscles are stimulated with undue ease by means of electrical currents through the peripheral nerves. As long as these two phenomena are present, there is a liability to the recurrence of the attacks. Attempts to elicit the phenomena in my case failed, but the patient was already under the influence of chloral and bromide when the attempts were made — a fact which may or may not be of importance. The affection nearly always passes off without leaving any trace behind it.

After carefully considering all the facts in my case, I repeat that I am inclined to consider it as one of tetany of a fairly mild form, and very short course — three days. At the same time, I am far from wishing to suppress the points opposed to this diagnosis, namely, the trismus of a year's duration, and the failure to bring out the signs of Trousseau and Erb, on which the books lay considerable stress.

#### MYOSITIS UNIVERSALIS ACUTA INFECTIOSA, WITH A CASE.<sup>1</sup>

BY HENRY JACKSON, M.D., BOSTON.

I SAW last spring in Strassburg the following rare case, and though I had hoped to be able to give a more detailed account of the case, think that the few notes taken at the time, may be of interest to the members of the society. The above diagnosis, made by elimination during life, by Prof. Kussmaul, was sustained by the result of the autopsy performed by Prof. von

<sup>1</sup> Read at Section for Clinical Medicine of Pathology and Hygiene, of Massachusetts Medical Society, April 13, 1887.

Recklinghausen. The case entered the hospital May 18th, and was demonstrated in the clinic May 22d.

Woman, aged thirty-six; family history good; she has two healthy children; lives in a district apparently healthy; no one else sick in the house. Was never sick before so far as she knows.

Six weeks ago first felt sick (unwohl). Malaise, inability to work; had a red, papular eruption on the face, pain in the neck, pain in swallowing. She was treated for a sore throat. The eruption disappeared in a week's time without special treatment.

After the disappearance of the eruption, first noticed swelling, accompanied by pain in the shoulders, legs, and sacral region; the swelling in legs soon passed off, appearing in the arms. Last two weeks pain in the neck, swelling less marked. The pain, which was at first sharp, has become dull. Pain has always been in the muscles and not in the joints. Throughout the sickness appetite fair, thirst marked, sweating, moderate fever, constipation, no vomiting, urine scanty and high-colored.

On entrance, May 10th, slight fever, mind clear, slight oedema of face and extremities, muscles of extremities flexed and rigid; extension caused pain. Paresis of soft palate, electrical reaction in general diminished, reflexes absent. Examination of chest and abdomen negative.

During last few days high fever, rapid respiration, pulse 140. Several small patches of pneumonia.

Prof. Kussmaul considered the diminished electrical reaction as due, in part, at least, to the oedema, the abolition of the reflexes as of peripheral, not central origin; he considered the pneumonia as very probably due to particles of food which got into the lung on account of the difficulty in swallowing. Mind clear to the last; no symptoms pointing to disease of the abdominal organs. Death on May 24th; ultimate cause, broncho-pneumonia.

Trichinosis was first thought of; eliminated by the history (her husband did not allow her to eat raw sausages), by the absence of the gastro-intestinal symptoms as prodromata in this disease, by the fever in present case. Prof. Kussmaul said the case reminded him clinically of one in which thousands of miliary aneurisms were found all over the body.

The fever, the widespread muscular pain and oedema pointed to a diffused myositis without any discoverable local cause, hence the diagnosis was as stated.

*Autopsy, May 25th.* Brain and spinal cord presented nothing abnormal. Veins of abdominal cavity very full of blood. Spleen soft, enlarged. Stomach and intestines presented nothing abnormal.

Stricture at the entrance of the pelvis of right kidney into the ureter, which had caused hydronephrosis of right kidney with almost total disappearance of the substance of the right kidney. Left kidney much enlarged, otherwise not abnormal. Heart pale.

In both lungs several small patches of pneumonia. The muscles, throughout the body especially in the extremities, the trunk and the face (orbicularis), pale in color and moist; many small hemorrhages in sheaths of the muscles; rupture of left rectus abdominis, with hemorrhage.

Under the microscope muscles showed waxy and granular degeneration; fibres broken; small cell infiltration in the interstitial tissue, in no place amounting to the formation of abscesses visible to the naked eye. Nuclei of the muscles increased markedly, showing a real

proliferation of muscular tissue, as well as a degeneration.

I heard no report of a bacteriological examination, but, reasoning by analogy with diseases which have been studied, we may say that bacteria were most probably associated with the inflammation.

Prof. von Recklinghausen told me that when he was an assistant of Virchow's, he had seen two similar cases, but I have been unable to find a report of them.

We have here some acute disease of a febrile nature, rapidly ending in death. At the autopsy a widespread myositis is found, otherwise no pathological lesions which can be considered as a primary cause of the severe symptoms existing during life.

Dr. Blodgett kindly called my attention to a similar case published lately in the *British Medical Transactions* (December 18th, 1886, p. 1215). Acute myositis, (Mr. Treves.)

After exposure to severe cold, the following symptoms were manifested: chill, malaise, fever, loss of power in arms, cramp-like pain. Similar pains in legs. Gradual recovery in six weeks. Mr. Treves divides myositis into: (1) Simple, due to injury. (2) Myositis from cold. (3) Infectious boil or osteo-myelitis. (4) Attending various infectious diseases. (5) Trichinae.

This is the only case I find in the recent medical journals, German or English. In the fourth volume of "Virchow's Archives," (1852), is an article by Virchow on myositis. Anatomically, he divides myositis into: (a) Interstitial; (b) Parenchymatous; (c) A combination of (a) and (b). Etiologically divided into: (a) Traumatic; (b) So-called muscular rheumatism; (c) Syphilitic; (d) Septic. Then goes on to say: (e) "One sees finally abscesses occur in muscles under conditions as yet not made out, under conditions spoken of by the Vienna school as 'spontaneous pyæmia.' General symptoms are chill, high fever, disturbance of heart, severe, widespread pains; death in few days. Such processes may be of spontaneous origin, more commonly due to other septic diseases, especially typhoid."

A similar allusion I find in Fürster. In Lobstein a case of death where the only lesion was a myositis (general?) and local patches of pneumonia.

In none of the more recent works on pathology do I find any mention of a myositis, widespread in area and independent of some preëxisting centre of infection.

## Reports of Societies.

### MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

APRIL 13, 1887. Meeting called to order, at 8 o'clock, by Dr. F. I. KNIGHT, Chairman.

First paper, read by Dr. HENRY JACKSON:

#### A CASE OF ACUTE, INFECTIOUS, UNIVERSAL MYOSITIS.<sup>1</sup>

After the reading of this paper, Dr. FITZ said the chief interest in this case, apart from its rarity, lies in its etiology. It is well known that the muscular

<sup>1</sup>See page 488 of the Journal.

system bears a similar relation to infective agencies to that presented by the spleen, kidneys, and liver. Granular degeneration of the heart is always sought for, and is usually found. In typhoid fever, the hyaline degeneration of muscle is to be expected, and occasionally results in the rupture of the abdominal rectus, with the production of a hæmatoma. Such granular and hyaline changes are usually independent of extensive interstitial changes, but, in the infection of wounds, accompany the abscesses and purulent infiltrations, which may extend a long distance from the point of infection. In a dissecting wound of the hand or finger, the intervening structure may present little or no change, while a suppurative myositis may be present in the corresponding shoulder or scapular region of the individual. In typhoid fever also, muscular abscesses, even multiple in various muscles — may occur in addition to the more common degenerative changes.

In the case reported, the multiplicity of the lesions in remote parts of the body suggests the transfer of a virus through the blood-current. The described appearances of the spleen and heart give evidence of a general infection, while the condition of the muscles indicates the presence of pyogenic bacteria, as well as of those agencies which produce parenchymatous changes.

Multiple, miliary lesions of distinctly bacterial origin are usually due to a bacterial endocarditis, the malignant or diphtheritic variety. The peripheral lesions which are then found are usually rather hæmorrhagic and necrotic than suppurative, and more often cutaneous and nephritic than muscular. The peripheral lesions may be found without actual destruction of the valve-curtains. Pathogenic bacteria may be transferred, in the course of the circulation, to such deep-seated parts as periosteum and bone-marrow without evidence of disease in the lining membrane of the circulatory apparatus. It does not, therefore, seem remarkable that such cases as the one reported by Dr. Jackson should occur, but that they do not oftener arise.

The case reported by Treves has already been referred to, and Hayem states definitely that there is a sort of subacute, suppurative myocarditis, circumscribed or diffuse, general, infectious, wholly analogous to the malignant forms of periostitis and osteomyelitis. In the discussion of Treves's case, it was made evident that cases of this sort might be hidden under the diagnosis of acute muscular rheumatism, as well as under that of spontaneous pyæmia.

It is evident that the muscular system, in the study of infection, may demand as careful consideration, both clinically and anatomically, as the bones and marrow, both of which have lately contributed such valuable information to the history of infection. The channels of invasion may be extremely narrow: a pimple or a hang-nail, a scratch or a prick, may serve to open the way for a malignant pustule or a phlegmonous inflammation. In Dr. Jackson's case, a diphtheria may have been the primitive disease, or the pharyngeal symptoms may have resulted from the action of the agent which produced the muscular changes. Certainly, the report of this case will call attention to what is, perhaps, less likely to be regarded as a new disease than as a peculiar manifestation of a familiar agent.

DR. BLODGETT asked Dr. Jackson how, or in what

way, the myositis, which is, in this case, thought to be due to an infection of the muscular system by a specific principle, differs from the form of myositis so frequently seen after exhaustive diseases, particularly typhoid fever. After this disease, we not infrequently observe limited areas of muscular tissue, especially in the domain of the abdominal rectus, presenting the appearance of a true myositis, which is followed by hyaline degeneration of the muscular structure, and by loss of substance in the part.

DR. JACKSON. I think the muscular lesion due to typhoid fever and that due to infective myositis are, pathologically, the same. The first process is usually confined to the muscles of the abdomen, whereas, in this case, the same pathological condition was widespread throughout the muscular system.

DR. SHATTUCK then reported

#### FOUR CASES OCCURRING IN HOSPITAL PRACTICE.<sup>2</sup>

DR. MINOT. Dr. Shattuck's case of Tetany corresponds closely with the description of that disease in a paper read by Dr. Lyman, of Chicago, at the annual meeting of the Association of American Physicians, in June last, and printed in the Transactions of the Association. Other cases were reported at the same time by Dr. Carpenter, of Pottsville, Penn. I should say that the disease is not extremely rare in children under four or five years of age. We see the thumbs bent towards the palm of the hand, the other fingers partially flexed, and the toes strongly flexed. There is usually some swelling of the hands and feet. These children are almost always feeble, insufficiently nourished, and often bottle-fed, perhaps undergoing the process of dentition. In one case, that of a child, three months old, under my care, which was artificially fed, immediate improvement took place when a wet-nurse was procured for the patient, who is now fifteen years old, and in good health. I have never seen a case in an adult which I recognized at the time, but possibly that of a physician who consulted me, and also Dr. J. J. Putnam, might come under this category. The movements were very striking, and corresponded to those in one of Dr. Lyman's cases, which were communicated to him by another physician.

With regard to the subject of hæmophilia, I think it remarkable that the now well-known spontaneous hæmorrhage of new-born children (umbilical hæmorrhage), which is to all intents and purposes the same disease, although fatal in eighty-four per cent. of the cases, yet in the few cases which recover does not recur, the hæmorrhagic tendency being, as it were, extinguished, as I have seen in several instances.

DR. PUTNAM. I will merely speak of the case mentioned by Dr. Minot. I have never seen any of these attacks, but it certainly did not suggest itself to me at that time as a case of tetany. The only well-marked case that I have seen occurred in an under-fed child of not more than a year old. In adults I have never seen it. I have seen a large number of nervous diseases at the hospital, probably five hundred a year for a number of years, and I have never seen a single case of this kind.

DR. WEBBER. I remember two cases of tetany; I was asked to see a patient several years ago, the muscles of the legs and trunks were affected, the arms less so. When the attack came on the patient suffered very severely from a strong muscular contraction

<sup>2</sup> See page 498 of the Journal.

which could not be overcome by manual force. Ether had been used to some extent for relief. The drug which gave the most relief was fluid extract of conium, after some doses had been taken at intervals of two hours, the attacks ceased; the man got well. He had had the affection for a number of days before I saw him. The other was a case in which the arms were chiefly affected, the trunk was not affected. The spasms had continued for several weeks, several attacks each day, but nothing I could do gave him any relief. I tried conium, electricity, etc. The attacks were quite painful. The man came to see me several times but obtaining no relief, became discouraged, and I saw no more of him. The attacks were very similar to those described by Dr. Shattuck.

DR. KNAPP. Tetany is so rare an affection that I may be justified in citing a case which resembles some of those spoken of to-night. The patient was a neurotic, poorly-nourished boy of fourteen, who had been at some charitable school, where the food and hygienic surroundings were not of the best, and where, according to his story, he was not very well treated. A week before he came to the City Hospital, he held his breath for some time in order to avoid a disagreeable smell, and after this he began to have cramps, numb spells, and "pins and needles" sensation in his hands and feet. The cramps affected the whole body, and the pain was so severe as to make him cry out. These attacks came on quite frequently. During the cramps he found it difficult to speak or move. They lasted from half a minute to a minute. He had occasional sick headaches and was rather costive. He was not strong, and was rather deficient mentally, and, as I said, was poorly-nourished, and rather emaciated. While in the out-patient room he had an attack which I was able to observe. He seemed nervous and agitated as it came on. He said that the attack began in his feet and went up, the muscles of the abdomen being most affected. He stood up, his limbs were rigid, his arms were by his side with the fingers much extended and somewhat adducted, his face was drawn with an expression of pain — whether from spasm or voluntarily from pain, I could not say, — he made no movement, except a slight general tremor, and he made no answer to my questions, because he could not move his lips and tongue, as he told me afterwards. He understood perfectly what was said during the spasm. Motion relieved the spasm. After recovery from the spasm I examined him, finding nothing abnormal in the chest. Pressure was made over the median nerve and brachial artery, and soon after a second spasm came on. Further pressure, after this, did not excite another spasm, so that I am disposed to regard this as merely a coincidence. I then examined him with electricity. The muscles and nerves of the arms responded to a very mild faradic current. With the galvanic current  $KaSZ = AuSZ$  with  $\frac{1}{2}$  Ma. in the various muscles of the arm. The median nerve responded to  $\frac{1}{2}$  Ma. The boy was sent into the hospital, but I am unable to give any further account of him, except that a diagnosis of pavor nocturnus was made, which was only a part of his trouble.

I am still unwilling to call this case tetany. The spasm involved the muscles of the trunk, which is rare except in the severest forms of tetany; the fingers were extended and adducted, instead of being flexed and adducted as in the hand when it is about to be introduced into the vagina; there was no undue

excitability of muscle or nerve to electricity, and the attacks were not provoked by pressure on the nerve or artery. Such a combination of symptoms, therefore, is not like the symptom-complex of tetany, as given in the books, yet the condition was certainly curious.

DR. WEEKS. I have met one family of bleeders, who did not seem to feel the law of transition laid down by the authorities. Some five or six years ago I was called to a little child about two years of age, who was teething, and had a slight abrasion of the gum from which a persistent hæmorrhage had been going on for some time. I applied styptics, and after a time the bleeding ceased and has never recurred. I learned that the elder boy, some ten or twelve years of age, was troubled in the same way when he was an infant, and had since outgrown the diathesis. The family were of German extraction on the mother's side, the father was an American I believe. The mother seemed quite an intelligent woman, and said that her father was a physician, and that the case of the elder boy troubled him somewhat; he said he knew of no cases of the kind in his family or his father's family. This same boy I was called to treat, some two years afterward. I went to Melrose where the family had moved, and got there perhaps an hour or more after being notified, as I was out when called, and when I got there he had died of epistaxis.

DR. BAKER. I would like to ask whether a tendency to umbilical hæmophilia was ever transferred to the offspring? Whether their children showed it?

DR. WEEKS. I have never seen a case of direct transmission. The case I mentioned was that of a young lady now married; I went to attend a relative of this patient, either a sister or cousin of hers; that is, the sister of the first one who died, was a victim to this disease. My impression was that she was married and left a son about eight or ten years old. He has never had any disposition to bleed. These cases are almost always considered hereditary. The remarkable point was that when the patient recovered, she recovered completely and permanently, and never had another attack.

DR. BLODGETT. I have had an opportunity of learning the history of one case similar to that reported by Dr. Shattuck, of a certain family concerning the history of which I have considerable knowledge. This patient, a male, was one of several children of the same father and same mother. He is the only one who showed a disposition to bleed. On several occasions he bled alarmingly from the nose, the surface was blanched, he became unconscious, and was evidently in the very last extremity. He has not had other forms of hæmorrhage, and the nose-bleed was the only accident he dreaded and from which he expected one day to lose his life. He is now fifty or sixty years old. Certainly the great part of his life has been passed in imminent peril of death from loss of blood, and he has been at death's door from this cause a number of times.

I do not know that I am warranted in calling this a case of hæmophilia, though it was very severe in its character, nothing of the kind ever made me feel like classing this case as similar to the one reported by Dr. Shattuck. I have the genealogy of two or three families in which bleeders abound. I have a note of a brother of the patient having died from the extraction of a tooth. I think the young man may belong to the very rare category of hereditary bleeders.

DR. KNAPP. I should like to ask Dr. Webber if he tried Trousseau's method?

DR. WEBBER. I think one case occurred before I read Trousseau's account, as to the other case I do not remember.

The next paper was by DR. FOLSON.

#### CASES OF MULTIPLE NEURITIS.<sup>3</sup>

DR. WEBBER. Dr. Folsom has given an exceedingly interesting paper. The first case I think is remarkable for its recovery, that the patient should recover where so many nerves have been affected. If I understand correctly, the nerves supplying the glottis were not affected, but that the patient could swallow, and nutrition was kept up; the food did not get into the bronchi. In two patients under my care the disease was fatal from the food entering the bronchi so that the patient could not be properly nourished. I think the milder cases are more common where comparatively few of the nerves are affected, the disease seems to run its course and then there is a change for the better. In a few cases there is such a similarity to rheumatism, with swelling of the limbs affected, and even sweating, that the cases might be mistaken for rheumatism.

Dr. Jackson's account of the case of myositis remind one of some cases of multiple neuritis. I saw one patient six months after quite a severe attack affecting the legs, and had an opportunity of examining the tendon reflexes in the patient, who congratulated himself on his perfect recovery, and came to see me to say that he was perfectly well. I could not elicit any response at all. I suppose a good many cases in which the cause is obscure can be traced to exposure. I had within the last year or so a lady who had neuritis of one arm, all the nerves of the arm and shoulder seeming to be implicated. There was no history which could sufficiently explain the attack, and no special exposure. It is quite possible that such a patient standing on the street or riding in a horse-car with the wind blowing on that side of the body might have been exposed sufficiently to have a neuritis developed, the person being a little more susceptible from being run down or in a condition less capable than usual to stand such an exposure. Blisters seemed to do her more good than anything else. She expressed great relief after using them. She continued their use at her home. She would put a blister on the spot which was tender, with complete relief to the pain. In the more severe cases of idiopathic neuritis after the very first acute period seems to have passed, much benefit may often be obtained from blisters. I found also considerable help in relieving the pain, from a four or five per cent. solution of carbolic acid, keeping it on the part continuously. Occasionally the patient complains of heat, and a burning sensation, but it relieves the pain. I have found nothing that ever stopped the disease; patients seemed to get well themselves after the disease had run its course. I have not had much experience with alcoholic neuritis; I suppose that I doubtless saw and treated such cases before the subject was brought prominently to the profession, and have called them by some other name. I am suspicious that one or two cases of supposed locomotor ataxia may have been neuritis. I have seen one case which I am very sure was neuritis and not locomotor ataxia. I think that was a case in which alcohol played a part in its etiology. In one

case in which I think alcohol caused the disease, alcohol relieved the pain, and the attending physician advised the patient to take whiskey, and he took it and increased his danger and the gravity of the disease in that way. He came out of it remarkably well and comparatively recovered; but alcohol was not recognized at that time as a cause of such symptoms.

The mode of treatment that Dr. Folsom speaks of, massage and electricity, I think is very judicious after the acute stage, and when the tenderness has disappeared. I know of nothing else which restores the functions so readily, but after doing the best we can in some of these cases there is not a complete recovery, there is a remainder of disability of certain muscles, or contracted limbs, thus to some extent incapacitating the patients from moving about in ease and comfort.

I have seen a few cases where even after eight months there was still lack of function when all progress towards recovery had seemed to cease.

DR. PUTNAM. I have only to say that I have been very much interested in this remarkable disease, the prominent features of which have been so vividly presented by Dr. Folsom. In regard to the first case, I do not see sufficient clinical reason for considering it to be of infectious character. This disease is not epidemic with us as it is in the South. I do not see how it materially differs from the alcoholic cases. Some cases are very remarkable for the pain, and in some there is little acute pain, and the duration of the cases is also very different under different circumstances. The fact has not been sufficiently dwelt upon of late that central disease and acute neuritis sometimes go hand in hand.

DR. F. C. SHATTUCK mentioned the chief points of interest in an outbreak of beri-beri, a disease which, as the reader said, may be taken to represent the class of infectious multiple neuritis, one of the sufferers from which he had seen a few days since.<sup>4</sup> There are strong reasons for thinking this disease to be infectious, though we are still entirely ignorant as to what the infection is and what is its avenue into the system. The disease appears under different forms, but in a form which is certainly a common one, differing in some respect from non-alcoholic multiple neuritis, originating in these latitudes. In beri-beri paresthesia is pronounced and cutaneous oedema is marked—dropsy of the internal cavities is not rare—but severe pain and great tenderness along the course of the nerve-trunks are not prominent symptoms.

DR. BLODGETT stated that he had the notes of a strange disease he now thinks to have been a case of beri-beri. The patient was the captain of a vessel sailing from Calcutta. While in that port, he became very ill, and was treated by several physicians, who considered the case to be of syphilitic character. The symptoms were of grave nature, and were confined to the central and peripheral nervous structures. There was considerable disturbance of the sensorium, with pain and swelling of the limbs, which subsided only slowly, and never completely. The patient was never able to resume his duties on board ship, but became erratic and morose, wandering from one locality to another, and only recently after a duration of the disease for more than twelve years, he died in Colorado.

DR. FOLSON. Before primary multiple neuritis was described in the medical text-books, the first cases

<sup>3</sup> See page of 493 this number of the Journal.

<sup>4</sup> Journal, April 14, 1887.

which I saw reported were in German medical journals, and later in those of England and the south of Europe. One which I saw several years ago was in a gentleman not pressed by business, just returned from a long vacation, during which there was no exposure, at least to cold or wet. The first symptoms were a numbness in both legs with inability to lift his thighs high enough to step up on a platform. Afterwards there was great pain and sensitiveness to pressure or motion in the course of all the spinal nerves. The other symptoms were like those of infectious diseases, fever, thirst, loss of appetite, dry skin, coated tongue, headache, elevation of temperature, although of only about a week's duration, and a generally typhoidal appearance, like all the others which I have seen. The important points in treatment are full nutritious liquid diet, quinine, wine if needed, relief of pain and especially the use of massage and galvanism at the earliest time practicable not to increase the pain. In marked paralysis of the extensors of the feet, splints will be required. I have not found carbolic acid so useful for external application as opiate liniments. Although patients in favorable cases can walk and have a fair use of many of their muscles in from three to six months, two or three years, or even more may be required for the best attainable results.

DR. KNAPP. There were certain symptoms in two of the cases reported by Dr. Folsom which seem worthy of special notice, on account of their influence upon diagnosis. Most of the text-books on nervous diseases lay stress upon the existence of bed-sores and of disturbances of the bladder as evidence against multiple neuritis, and in favor of some disease of the cord. Dr. H. C. Wood, in his recent work on "Nervous Diseases and their Diagnosis," is the only author who states definitely that bed-sores may exist in neuritis, although Gowers implies that such a thing may happen. Dr. Folsom's cases show that both bed-sores and vesical disturbances may be present in this disease. In this connection it may be of interest to speak of a case of traumatic neuritis I saw at the City Hospital a year ago. A hod of mortar fell on a young man, cutting his head and striking his shoulder. He developed a paralysis of the whole arm, which recovered in part, leaving a typical form of Erb's shoulder-upper-arm paralysis. His deltoid, biceps, brachialis anticus, supinator, longus, and infra-spinatus were completely paralyzed. There was great atrophy and reaction of degeneration. There was loss of sensation for a time over the lower part of the upper arm. The pain at first was so great that he would often support his arm on his elbow, for relief, but I could get no statement that he kept it constantly in this position, or that great pressure was exerted on the elbow. However that may have been, a typical bed-sore formed over the elbow, lasting several weeks.

tions of the pancreas and stomach. The case, he said, he brought to the notice of the Association on account of the infrequency of the affection, and the obscurity, as regards its diagnosis. Perhaps, however, such cases were not as infrequent as was generally supposed, since many patients died with symptoms similar to those met with in the present instance which were attributed to some other disease; whereas, if autopsies had been made, the primary cause of death might have been found in the pancreas.

In the case in question there were absent three important and common symptoms generally regarded as diagnostic of cancer of the pancreas, namely: jaundice, oedema and fat in the alvine discharges. According to Dr. Norman Moore,<sup>2</sup> jaundice was always found when the pancreas was the primary seat of a new growth. In ten cases coming under his observation in which post-mortem examinations were made, jaundice was present in all. Sir Charles Murchison also referred to jaundice as a common symptom of the disease; but Dr. Louis Starr had shown that it was of clinical importance to note that the ductus coledochus does not always pass through the head of the pancreas but sometimes merely passes over it; in which case, any enlargement of the pancreas could simply push it aside, without giving rise to jaundice. According to Wyss, this happened fifteen out of twenty-two times.

Oedema occurred, according to the majority of authorities, in more than half the cases of cancer of the pancreas recorded; while fat in the alvine discharges was said to be found in nearly all the cases. The same condition, however, might occur, according to Reynolds, when the duodenum, and not the pancreas, was diseased. Dr. Taylor said that he had been unable to find any authority who gave even one pathognomonic sign, and therefore he thought that Da Costa's manner of diagnosing these cases was the most feasible, namely, by exclusion. As to the invasion of the stomach in the present instance, according to Pepper, this disease rarely extended to the stomach, but rather affected the neighboring lymphatic glands, the duodenum, and the liver.

In regard to the possibility of prolonging by operative procedure the life of a patient suffering from cancer of the pancreas, provided the diagnosis could be made out sufficiently early, he thought that the two cases reported by Billroth were of much interest, where he had made a partial resection of the organ; removing the tail in one and a portion of the head in the other, but, of course, not injuring the duct. Both patients recovered from the immediate effects of the operation, but how long they lived, or whether the disease returned, he did not state. Dr. Taylor thought that when he first saw his case but a very small portion of the head was involved, and that if the diagnosis could then have been established, it would have been an excellent opportunity to perform an operation similar to that of Billroth.

#### AMPUTATION OF THE PENIS FOR EPITHELIOMA.

DR. J. R. MACGREGOR presented a portion of a penis which he had amputated for epithelioma of the glans and prepuce. This variety of cancer, he said, was very interesting, not only as regards the result to the patient, but also from its special pathological features. In this case there was a great deal of thickening, and the connective tissue of the part was greatly

#### NEW YORK COUNTY MEDICAL ASSOCIATION.<sup>1</sup>

##### CANCER OF THE PANCREAS.

DR. THOMAS C. TAYLOR read the report of a case of carcinoma of the pancreas, with infiltration of the omentum and walls of the stomach, along the greater curvature, occurring in a female thirty years of age. In connection with it he presented the diseased por-

<sup>1</sup> Concluded from page 485.

<sup>2</sup> St. Bartholomew's Hospital Reports.

increased. At the time of the operation, which was performed six weeks before, much care had been taken to prevent any subsequent constriction of the urethra at the end of the stump, and thus far the result had been altogether satisfactory. The chances were also fair, he thought, that there would not be a reproduction of the growth.

DR. GOSLEY said that it was an interesting fact that, in epitheliomatous growths of the glans or prepuce, there was always antecedent balanitis or balanoprophitis, and the greater proportion of cases occurred in individuals who were the subjects of chronic balanitis. This condition was, for the most part, due to lack of cleanliness on the part of the patient, allowing of the accumulation of smegma behind the glans, and at first there was simply an alteration in the normal epithelium. Afterwards, this went on to be developed into this peculiar form of carcinoma, and the proliferation was rapid enough not only to involve the mucous membrane, but to extend to the cavernous bodies of the penis.

So far as his experience went to show, the amputation operation usually resorted to in this class of cases was insufficient, and was apt to be followed by a recurrence of the disease, more or less rapid, this new development always occurring at the end of the stump. Atresia of the extremity of the urethra was apt to be a very unpleasant consequence of the amputation of the penis, and he related a case which first came under his observation when he was a hospital interne, in which, although there was no return of the cancerous disease whatever, the patient died within two years from pyelo-nephritis, resulting from atresia of the urethra produced in this way. About 1860, having occasion to amputate a penis for epithelioma, Dr. Gosley said he first used the *cérasseur* to break up the cavernous bodies. Then, leaving the urethra fully three-quarters of an inch longer than the stump, he attached it to the free extremities of the cavernous bodies. By this and other devices, therefore, it was not difficult to avoid atresia of the end of the urethra.

In consequence of the frequency with which the epitheliomatous growth recurred, however, he finally made up his mind that, in the next case he met with, he would excise the whole penis; and, accordingly, in April, 1878, he resorted to this procedure in a patient fifty years of age. He dissected out the entire penis, without opening the cavernous bodies, removing the crura and all. In this instance, about one-half of the cavernous bodies had been involved in the cancerous process. The patient was discharged, cured, on the 11th of June following, but he was unable to say what was the subsequent history of the case. Having exhibited this penis, preserved in alcohol, Dr. Gosley went on to say that it seemed to him that a radical operation of this kind gave the patient the best chance of avoiding a recurrence of the disease, for, if the slightest epitheliomatous deposit were allowed to remain, the growth was sure to go on developing again. He believed, therefore, that in the majority of cases it was not only justifiable, but the most proper measure to adopt. It seemed like a formidable operation, but, in reality, it was not, and in the case in which he performed it the patient made a rapid recovery after it.

DR. JOSEPH D. BRYANT said that he had had some experience with amputation of the penis, and he very distinctly recalled three cases of it in particular. In two of them the operation was undertaken for cancer-

ous disease, involving the glans and anterior portion of the penis, and in the third for general carcinoma, involving not only the penis, but the whole system. The latter, as a case of remarkable interest, he related in detail. At the autopsy, it was found that there was scarcely an organ in the body which had not been invaded by the cancerous disease. The kidneys were probably the starting-point of its development, and even the spinal cord was among the structures involved. One of the other patients referred to was a young man of twenty-five, who attributed the origin of trouble to a woman with whom he had had intercourse, whom he believed to be affected with the same disease.

In these cases, he had performed the amputation just in front of the scrotum, cutting the spongy body three-quarters of an inch longer than the corpora cavernosa, and attaching the integument to its extremity. He said that he was fully of the belief that the entire removal of the organ was the only ultimately safe procedure. He could understand, however, that if the growth were very slight, it might be allowable to consult the patient's wishes on the subject, and, if he objected, make the amputation pre-scrotal.

## AMERICAN SURGICAL ASSOCIATION.<sup>1</sup>

ANNUAL SESSION OF 1887.

THURSDAY, MORNING SESSION.

THE Committee of Conference with reference to the Congress of American Physicians and Surgeons reported that they had attended the meeting of conference held in Washington, September 24, 1886. At this meeting the following resolutions were adopted:

*Resolved.* (1) That it is desirable that the following special societies, the American Surgical Association, the American Ophthalmological Association, the American Otological Association, the American Neurological Association, the American Laryngological Association, the American Gynecological Association, the American Dermatological Association, the American Climatological Association, with the Association of American Physicians, shall arrange for a conjoint meeting in the city of Washington, September, 1888, and subsequently at intervals of three years at the same time and place.

(2) That this arrangement shall not interfere in any way with the autonomy of each special Society, and that each Society shall retain the right to withdraw at any time from this conjoint scheme.

(3) That the special feature of the meeting shall be the conjoint assemblage of the special societies on two evenings during the session; on one of which there shall be an address delivered by the president of the conjoint meeting, and on the other there shall be communications by a referee, and co-referee on some subject of general professional interest.

(4) That each special society approving this report is invited to appoint one representative (with an alternate), and that the representatives so appointed shall constitute an executive committee to serve for one year, with power to select such officers for the first conjoint meeting as may be deemed necessary; to propose a programme for said meeting; to make all other

<sup>1</sup> Continued from page 483.

arrangements and to prepare and submit a plan of organization for future meetings.

(5) That all expenses connected with the conjoint sessions shall be apportioned equally by the executive committee among the special societies participating.

Owing to the views entertained by the Committees of the Ophthalmological and Dermatological Associations with regard to the interval of times of meeting they abstained from voting upon the first resolution.

The report was adopted, and Dr. C. H. Masten of Mobile, (with Dr. J. Ford Thompson, Washington, as alternate) was appointed as the representative of the Association.

The following was announced as the Nominating Committee: Drs. J. Collins Warren, J. Brinton, T. F. Poewitt, N. P. Dandridge and D. W. Yandell.

The Treasurer, Dr. P. S. Conner, reported a balance of \$738.46 in the treasury.

#### CYSTOTOMY AND LITHOLAPAXY.

The discussion of papers read on Wednesday was then taken up.

Dr. W. T. BRIGGS, of Nashville. Dr. Dennis, in his paper, held that the time would come when suprapubic lithotomy and litholapaxy would practically be the only operations performed for the removal of stone. My idea is that no special operation is applicable to all cases. The surgeon should have all operations at his command and should select the one adapted to the particular case. In certain cases such as large stones or deformities of pelvis and lower extremities, suprapubic lithotomy is undoubtedly the best operation. There is, however, no reason why in ordinary cases of medium stones, the perineal operation should not be adopted. The operation which I regard as the best is one through the median line. The external wound permits dilatation to any extent. The neck of the bladder is usually resistant, but by making a lateral incision of three lines on each side of the prostate gland, with gradual dilatation, the opening can be enlarged to an extent sufficient to permit the removal of any stone that should be removed through the perineum. I exhibit a number of stones (varying from one inch to one-and-a-half inches in diameter) which were removed in this way, with recovery of the patient. There is no reason why fragmentization of a large stone should not be combined with the medio-lateral operation. The operation is easier than the lateral operation. Incision in the manner mentioned with the removal of all stones at once, will, I think, have a less mortality than litholapaxy.

Taking all kinds of cases at all ages, my first seventy-four cases were operated on by this method without a death. Then I had two deaths; in one a pelvic abscess complicated the case, and in the other there was scrofulosis. Forty-six cases were then operated on with one death. This case died three months after operation of general tuberculosis, with wound ununited. It is probable that in properly prepared patients without organic disease, the mortality will be nothing. In the last two years, I have operated on six old men, with an average age of sixty-six years, all recovering.

Dr. D. HAYES AGNEW, of Philadelphia. As Dr. Briggs has said, we cannot commit ourselves positively to any one operation. The median operation is undoubtedly the safest operation through the perineum. The only damage likely to be done is in extraction, but

this can be avoided by nicking the neck of the bladder, which admits distension to almost any extent. Where the stone is large and yet is one which should come through the perineum, an incision may be made on each side. Drainage is more readily effected by the perineal operation. With antiseptic precautions the success of this operation will be even greater than at present. In cases of large stone the high operation is the best. When one operates year after year through the perineum as Dr. Briggs and others of us have done, with almost universally successful results, he is indisposed to give up what he believes to be a well-trying method for one which is a comparative novelty.

Dr. J. R. WEST, of Richmond, Ind. After seeing Dr. Briggs perform the medio-bilateral operation, I have adopted this method in eight cases, all of which recovered. With one exception all the patients have been old. One case was twenty years of age, and a mulberry calculi weighing 520 grains were removed. The next youngest case was fifty-nine years old, eight stones being removed. In another case, seventy-two years old, twenty-two stones were removed. From the accounts of the supra-pubic operation given yesterday, I infer that the operation is more difficult of performance than the one described by Dr. Briggs.

Dr. H. H. MURD, of St. Louis. My first operations were performed by the perineal method with good results. I then began the use of litholapaxy, which in the majority of cases takes the place of the perineal operation. The supra-pubic operation is of service for the removal of certain large stones and for exploratory purposes. In considering this operation it must be borne in mind that the existence of contracted bladder with adhesions will render the supra-pubic operation difficult or impossible.

Dr. J. COLLINS WARREN, of Boston. During the past year I have seen two cases of the supra-pubic operation, both in the practice of others. One was for stone and the other for tumor. There seemed to be no difficulty in the operation. Both cases recovered without a bad symptom. I have investigated the subject of cystotomy in the female, and reached the conclusion that there was no danger of vesico-vaginal fistula.

Dr. THEODORE R. VARICK, of Jersey City. Two years ago I operated on a boy, fourteen years of age, who had had symptoms of stone for seven years. I started with the left lateral operation, but on account of the size of the stone had to carry the incision to the right side. The stone removed weighed seven ounces and two scruples. There was no perceptible laceration, and the boy recovered completely. In cases where there is hemorrhage, I have used with advantage, the application of water just under the boiling point, saturating a sponge and placing it for a short time on the bleeding surface.

Dr. DAVID Y. YANDELL, of Louisville. I have performed ninety-two operations by the perineum, eight by lithotomy, and six by litholapaxy. I have seen two supra-pubic operations, but it does not seem to me that this operation is an easier or better one than those which I have mentioned. There were seven deaths from the lithotomies. In none of the cases was there any return of the stone. In the eight lithotrities there was a return of the stone in two cases. In the six Bigelow operations there was a return in two cases. The question in my mind is still *sub judice*, and until more evidence has been pre-

sented, I shall adhere to the opinion that the best operation is that made through the perineum.

Dr. JOHN B. ROBERTS, of Philadelphia. I cannot change the opinion which I expressed three years ago, that the high operation is certain to be a very important one. If we wish to make a free exploration of the bladder, the high operation is better than the one through the perineum. In cases of stone operated on by a surgeon without special experience in this direction, I think that the supra-pubic operation is the safer. With reference to Dr. Packard's suggestion to treat retention of urine from stricture by supra-pubic cystotomy, I should consider this too serious a step to take in the first place. My own view is that persistent efforts should be made to introduce a filiform bougie which will drain off the urine. Simple aspiration above the pubes will give a chance for the passage of an instrument through the urethra in two or three days.

Dr. J. E. MICHAEL, of Baltimore. With reference to supra-pubic opening of the bladder for retention due to stricture or prostatic disease, I have had considerable experience in this direction, and have never found such an operation necessary. Supra-pubic aspiration seems to be all that is necessary, and under proper precautions is safe. Then in prostatic cases the use of a soft catheter will accomplish all that can be done without some radical operation is attempted. In cases of stricture this must be treated. As to the advisability of the supra-pubic operation for exploration for some cases of prostatic enlargement and for exceptional cases of foreign bodies, there can be no question.

#### A STUDY OF THE PROCESS OF REPAIR AFTER RESECTION OF THE INTESTINES AND SOME OF THE COMPLICATIONS WHICH OCCUR.

by J. COLLINS WARREN, M.D., of Boston.

The speaker first referred to the anatomy of the wall of the intestines, calling particular attention to the thin submucous fibrous coat, which was the strongest of the various coats of the intestine. The peritoneal and muscular layers as well as the mucous layer are easily rubbed away, but this fibrous coat is exceedingly resistant. In introducing the sutures in cases of wound of the bowel, it is desirable that a few fibres of this fibrous coat be included, but care must be taken not to perforate the mucous membrane. The fact that this has been reached is readily told by the resistance offered to the needle. A number of experiments made upon dogs were then described. The operation consisted in removing a portion of the intestine and a V-shaped portion of mesentery and then bringing the parts together. The Lembert suture was the one used. After the operation the bowel was replaced in as near its normal position as was possible. The dogs were killed at varying times after operation from three to eight days. In these cases the intestines were found matted together around the seat of operation, but a current of water flowed freely through the gut. In one case the abdomen was opened a few days after operation, and this matting together of the various coils of intestine found. The intestine was replaced and the wound again closed. Six months later most of the adhesions were found to have disappeared.

#### SHOULD LAPAROTOMY BE DONE FOR PENETRATING GUN-SHOT WOUNDS OF THE ABDOMEN, INVOLVING THE VISCERA.

by CHARLES B. NANCREFE, M.D., of Philadelphia.

The chief object in presenting this subject to the consideration of the Association, was a medico-legal one. A few years ago in a famous murder trial, the counsel urged the acquittal of the accused on the ground that the fatal result had been induced by the surgeon probing a penetrating gun-shot wound of the abdomen, and many authorities in support of this position were cited. At present the tendency is toward more active interference in these cases. The author asked that after a consideration of the subject the Association, the highest surgical tribunal of the country, express an authoritative opinion upon this question. The questions which must be decided are: what are the tendencies of the injury, are they towards recovery or death? When death takes place, what are its causes? When recovery ensues, what conservative processes occur? How likely are these conservative processes to take place and what favors or prevents them? How reliable are unaided natural methods compared with those which art affords, and should they be imitated or avoided by the surgeon? What are the dangers inherent to the operation of laparotomy and what advantages does it afford.

Reference was made to the experiments of Wegner and Grawitz, showing that the healthy peritoneum can dispose of air, serum, bile and healthy urine. When however, air and putrescible fluids in greater amount than could be disposed of in a short time, were introduced, decomposition occurred and septicæmia resulted. A notable exception was that living, defibrinated blood never decomposed under these circumstances. This seems to prove the truth of the suggestion of the author that the presence of fibrin-ferment and probably its absorption, is one of the dangers of peritoneal traumatism. The ordinary micro-organisms produce no evil effects, provided the quantity of putrescible matter does not exceed that which may be disposed of in a short time. In small quantities, the pathogenic micro-organisms produce no harm. Suppurative peritonitis is produced by these micro-organisms when stagnant fluids are present, capable of nourishing the bacteria, when the surface of the peritoneum has been destroyed by caustic fluids, and when there is a wound of the peritoneum.

The practical application of these experiments teaches that all blood and serum should be removed and free drainage provided; every wounded surface must be coaptated; if a tube is used, the opening must be carefully guarded; the depression of the circulation present during shock, must be removed, and the vascularity of the peritoneum must be kept as near the normal as possible.

When visceral wounds do undoubtedly exist, the tendency of these cases is invariably towards death. Hemorrhage in itself is rarely fatal, but a very small collection of blood may be followed by fatal consequences either through the induction of sapræmia or by furnishing pabulum for the development of organisms productive of suppurative peritonitis. In nearly every case death is due to septic peritonitis, caused by extravasated matters. Of those attacked with peritonitis, ninety per cent. die within twenty-four hours. When recovery ensues, the effused matter is absorbed, and a limited adhesive peritonitis glues the injured organ to the abdominal walls or to a neighboring viscus. This process is successful in about eight per cent. of the cases.

The conservative processes are favored by absent

or slight flatulent fecal, urinary or biliary extravasation, by the absence or slight amount of effused blood or serum, by the favorable relation of the wound with reference to neighboring viscera or the abdominal wall, above all by the aseptic condition of the peritoneum, the wounds and their immediate surroundings, and by complete arrest of the intestinal movements. It is apparent from what has been said that nature's methods are not to be relied on.

What are the dangers of laparotomy? Shock, and the risk of rendering a peritonitis septic and diffused, which might have remained local and simple, are the dangers of the operation, but as we have the power of rendering the inflammation resulting from the manipulations innocuous, shock is practically the only result to be dreaded.

If these facts, and the deductions from them be true, all ball wounds of the abdomen, involving the stomach, intestines, bile or urinary bladder, should be treated by suture, or by resection and suture; injured omentum should always be excised, and the serous surfaces carefully sutured. Wounds of the liver and pancreas are to be treated in the manner to be described. A wounded spleen or kidney is to be removed provided certain contra-indications do not exist. Even penetrating wounds of the abdomen without involvement of the viscera are better treated by exploratory section, than by the expectant method. In many instances unsuspected injuries of the bloodvessels and viscera will be found and appropriately treated. The speaker laid but little stress upon most of the symptoms said to be diagnostic of wounds of the viscera, and held that the diagnosis should be made by the eye alone. The track of the ball should be enlarged under aseptic precautions until it has been determined whether or not the peritoneum has been opened. Then median section should be performed to ascertain the existence of and repair any damage that may have been done. The above remarks can only apply to wounds of the anterior and lateral walls of the abdomen. When the posterior wall is involved it is unavailing to ascertain the fact of peritoneal penetration by direct exploration. In these cases a correct opinion is almost always difficult and often impossible without laparotomy.

The rational signs of peritoneal or visceral lesion were briefly mentioned. The escape of bile, feces, urine, or the contents of the stomach, at once determines the question of visceral penetration. These signs are, however, rare, even when visceral lesion is present. Repeated vomiting of considerable quantities of blood almost certainly points to peritoneal or visceral penetration. This symptom is unlikely to be present even when there are numerous wounds, unless one involves the stomach or upper portion of the small intestine. The passage of blood in quantity by the bowel, is strong presumptive evidence, but it rarely occurs early enough to be of practical diagnostic value for operative purposes. The presence of fluid within the abdomen, within an hour or two after the injury, is a positive indication of peritoneal penetration and probable visceral injury, for only intra-peritoneal hemorrhage could produce such rapid accumulation of fluid. The rapid accumulation of intestinal gas in the general peritoneal cavity is a sure sign of wound of the peritoneum and of the gut. To be of much value it must appear within a short time after the injury. Finally, an amount of hemorrhage which

cannot be accounted for after a careful examination of the parietal wounds, indicates penetration and vascular or visceral lesion.

Profound shock, if not due to hemorrhage, is a contra-indication to operation. The surroundings should not contra-indicate operation in a proper case, provided the operator be expert in abdominal surgery. Most cases will do better if left to nature than they will if operated on by a bungling surgeon. If well advanced peritonitis exists, laparotomy is contra-indicated. Where there is no visceral complication, operation under these circumstances may sometimes be justifiable. Laparotomy, if done at all, should be done at the earliest possible moment that the condition will admit of it. Shock is the only thing that should delay the operation, and this should not do so if the condition is produced by hemorrhage.

In operating, strict antiseptic precautions should be carried out. The incision should always be median, extending from a short distance above the umbilicus to two inches above the pubes. Unless there be free hemorrhage, the small intestines should be carefully gone over, keeping them constantly enveloped in towels wrung out of hot water. Afterwards, the stomach, spleen, kidneys, bladder, etc., must be carefully examined. The source of a severe hemorrhage must at once be sought after. Wounds of the bowel should be secured with the Lambert suture, and dusted with a little iodoform. Wounds of the liver, if occupying its free border, should be coaptated, if possible, with dry, aseptic catgut, which will soon swell and fill the track made by the needle. If this cannot be done, the hemorrhage possibly may be arrested by the thermo-cautery, or, if the bleeding is free, the wound should be plugged with an iodoform-gauze tampon. If, at the close of the operation, the bleeding is almost completely checked, the cautery may be used as a further protection, and the tampon removed. If, however, the bleeding is still free, the tampon should be replaced and allowed to remain permanently. Wounds of the pancreas, spleen, and kidneys are to be treated in a similar manner. If these measures fail, the spleen or kidney is to be removed. Wounds of the bladder had better be united with dry catgut. Contused portions of the bowel should be excised; wounded or contused omentum or mesentery should also be removed. In removing a portion of the bowel, the cuts should correspond to the distribution of a large mesenteric branch. Should the pulse fail during the operation, flushing the abdominal cavity with hot water is often of service. The peritoneal toilet is most quickly and effectively made by irrigation with warm, sterilized water, and subsequent removal with sponges. Wounds of the peritoneum should be united. In closing the abdominal cavity, the peritoneum should be sutured with fine silk or catgut. The muscular aponeurotic and cutaneous structures should then be united with strong silk. The wound should be dusted with iodoform, and the dressing completed by the application of a pad of absorbent cotton and a flannel bandage.

Alimentation should be carried on by the rectum for forty-eight hours, when possible. Where peritonitis comes on after the operation, the treatment will depend upon whether it has developed rapidly or gradually. In the former case there is often evidence of shock from vaso-motor paresis, and in these cases, small doses of morphia, with atropia, will be of service, while large doses of opium may prove fatal. This

should be continued until pain is relieved, and the patient falls into a quiet sleep, from which he is readily aroused.

In the later stages of peritonitis, one or more hypodermics of atropia will, at times, save otherwise hopeless cases. For the control of the vascular processes involved in peritonitis, we have two powerful measures in the ice-coil to the abdomen, and in the use of leeches, if applied early, and the patient has not lost much blood. If the temperature continues to rise despite treatment, it is probable that ptomaines are being absorbed, producing supramia. In such cases, irrigation, with safe antiseptic fluids, is indicated.

In concluding, the speaker stated that everything advanced was to be viewed as more or less provisional, since sufficient experience in the operative treatment of these cases has not been accumulated to warrant positive statements.

#### THURSDAY. — AFTERNOON SESSION.

##### PISTOL-SHOT WOUND OF THE ABDOMEN TREATED BY LAPAROTOMY AND SUTURING THE INTESTINES,

by R. A. KINLOCH, M.D., of Charleston, S. C.

J. B., colored, aged twenty-seven, was admitted into the City Hospital, January 21st, at 7.30 p. m. He had been shot two hours before, in the abdomen, with a pistol-ball (38-calibre). The ball entered one-and-one-half inches to the left of the umbilicus. There was slight shock. The patient seemed to be comfortable, with the exception of a slight pain on the inside of the left thigh, which was intensified by movement. Pulse 88, respiration 24, temperature 99°. At 10 p. m., half-a-grain of morphia was given hypodermically, and shortly afterwards, anaesthesia was induced by the A. C. E. mixture. Penetration of the peritoneum was first determined, and the abdomen was then opened by median incision. A weak carbolic spray was used. The intestines were examined, piece by piece, and wrapped in towels wrung out of a one to ten thousand bichloride-of-mercury solution. The jejunum presented four wounds: two of entrance and two of exit. The ileum had two wounds. The mesentery was perforated in two places, and was also badly torn. There was free bleeding from a mesenteric branch, which was controlled by pressure-forceps, and subsequently, by ligature of silk. All the wounds were closed with the Lembert suture, using a fine, round needle and antiseptic silk. The wounds of the mesentery were brought together as far as was possible, but there was an infiltration of blood which could not be removed. The abdominal cavity was washed out with a weak solution of hydrarg. bichloride. The abdominal wound was closed with silver sutures, and a large rubber drainage-tube introduced. Antiseptic precautions were observed throughout the operation. The next morning vomiting occurred, and an examination of the wound showed that a suture had given way, and a knuckle of intestine protruded. This was returned, and the opening closed. At 5 p. m., the temperature was 102°. Vomiting again occurred, and shortly after midnight the patient expired suddenly.

*Post-mortem.* No adhesion of the parietal peritoneum had occurred. Half-a-pint of dark, sero-sanguinolent fluid was found in the cavity. All the intestinal sutures had held, and there was no fecal extravasation. A circumscribed abscess was discovered in the meso-colon, out of the line of the bullet. The ball

was found behind the body of the fourth lumbar, on the left side.

This was the third case in which the author had performed laparotomy for bullet-wounds of the abdomen, without visceral protrusion. The first operation was performed May 27, 1863, and the patient recovered. This was the first time that laparotomy was done for gun-shot wound without protrusion. In two other cases of such injury, the patients recovered without operation.

##### PISTOL-SHOT WOUND OF THE ABDOMEN, INVOLVING THE LIVER, STOMACH, SUPERIOR MESENTERIC VEIN, INTESTINE, AND KIDNEY. LAPAROTOMY: NEPHRECTOMY: DEATH ON THE FIFTEENTH DAY: AUTOPSY,

by W. W. KEAN, M.D., of Philadelphia.

Miss B., in Vineland, N. J., a plump and healthy, well-developed girl, of nearly eighteen, shot herself with a pistol, calibre No. 32, at 6.30 a. m., April 1, 1887. Dr. O. H. Adams, who arrived in a few moments, found that the ball had entered over the liver, and, after a careful search, found it lying under the skin of the left flank.

I saw her at 2 p. m. She told me that the wound was self-inflicted; hence the pistol had been almost in contact with the body, and the ball had probably passed in a straight line. The wound of entrance was over the ninth rib, which was fractured, four-and-a-half inches above the level of the navel, and three-and-three-quarter inches to the right of the median line. Skin not burned. The ball was located eight inches to the left of the median line, one-and-a-half inches above the level of the navel. There was moderate tenderness over the entire belly; hepatic dulness not changed; stomach resonant from fifth interspace; no cough, no râles, vocal fremitus normal. Renal dulness began at tenth rib, on left side, and was the same on the two sides. There was severe pain in the left shoulder. She had vomited a drachm-and-a-half of clear, bright blood, she told me, immediately after the accident. About a pint of urine, the first since the accident, was drawn by the catheter. It was not bloody. Pulse 104, respiration 30; no material rise of temperature. As, after consultation with Drs. Adams and Bidwell, it was deemed almost certain that the belly was invaded by the ball, exploratory laparotomy was advised, consented to, and begun at 3 p. m., and lasted nearly three hours, with every antiseptic precaution. The ball was easily removed, just under the skin. Neither wound could be traced positively into the belly. On opening the belly, neither blood nor serum escaped, nor was any extravasated food or faeces noticed. There was no peritonitis. Two fingers were passed in, and an effort made to discover the wound of entrance or of exit, without any being revealed by touch. The wound was then enlarged, and the stomach drawn out. A small, round wound near the pylorus was found, and was closed by four sutures (Lembert) of the finest iron-dyed silk, a round, ordinary sewing needle being used. This wound was practically closed by the poulticing mucous membrane. As the ball had entered the stomach, search was made for the necessary wound of exit. None was to be found, but the manipulation showed that a small amount of bloody serum existed in the belly, and a large area of extravasation was seen in the mesentery. But little blood had escaped into the peritoneal cavity. The mesentery was carefully torn through, and a small artery tied. The chief bleeding came from a hole

nearly one-eighth inch in diameter, in a large vein, so large and lax that at first I thought it the vena cava, but its position, just below the head of the pancreas, convinced me that it was a large, superior, mesenteric vein just before it forms the portal vein. After much difficulty, I seized it with hæmostatic forceps, and placed a lateral ligature of chromicized catgut on it.

The anterior border of the liver had been scalloped by the ball, but, as there was no bleeding, it was left alone. In addition, a large wound in a coil of small intestine in the left flank had been found; ten Lembert sutures were used in closing it.

Returning now to the stomach, a very careful search was again made for the wound of exit. It was found, obscured by a slight coating of blood. This was closed by three black-silk Lembert sutures. A systematic investigation of the entire bowel, from the stomach to the sigmoid flexure, showed no other wounds. The left kidney was badly lacerated, and was immediately removed by peeling it out of its capsule, and tying the pedicle with a stout silk ligature. A rubber drainage-tube was inserted through the wound of exit into the abdominal cavity.

The wound of entrance was cleansed and closed by three stitches, and the wound of exit by two. Sublimate gauze, rubber dam, and a wide flannel bandage completed the dressing.

During the day following the operation suppression of urine was threatened, only  $\frac{1}{2}$ ijss being secreted. This was quite albuminous. The next day, however, the amount rose to  $\frac{1}{2}$ xxiv, and on the third day, to  $\frac{1}{2}$ xv, and the albumen gradually disappeared. For the first three days nothing was given her, except a little cracked ice, ice-water, and a little whiskey and champagne. On the fourth day, peptonized milk, in frequent, but small quantities, was allowed, with rectal enemas of the same, and later, other liquid foods. Menstruation appeared regularly, when due, on April 3d, and saw its usual course of four days.

On the 8th she had a chill, lasting twelve minutes, and the temperature rose to  $104^{\circ}$ ; but as the most careful examination revealed no spot of special tenderness, no dullness, no fluctuation, and she was almost, it seemed, in articulo mortis, it was not deemed prudent to reopen the belly.

The next day, the 10th, she improved somewhat. On the 13th she had another chill, with a temperature of  $105.4^{\circ}$ . Had vomited several times, and also had some involuntary evacuations; but as her condition was fair, pulse 136, temperature  $101.4^{\circ}$ , the belly was reopened and explored. The intestines were bright and glistening, and no peritonitis existed.

Surgical bimanual examination revealed no pus or special tenderness at the site of the removed kidney, or, so far as it could be located, at the intestinal wound. No shock followed. The next (14th), she had two bloody motions, and gradually failed, dying on the fifteenth day.

The autopsy, by Dr. H. C. Smith, revealed general peritonitis, except in the pelvis, but no free pus was found anywhere. Only one wound was found in the stomach, near the pylorus, and this was healed, the four stitches being seen in place. The blood in the mesentery was disintegrating and suppurating, though no abscess existed, nor was there any free pus in the peritoneal cavity. The suppurating was chiefly marked along the mesenteric attachment of the intestine. On the other side of the mesentery, corresponding in posi-

tion to this wound, was a spot in the bowel-wall as large as a five-cent coin, which was gangrenous, and in its centre were two perforations of the bowel. No wound was found, except that discovered at the operation. No trouble was found at the site of the removed kidney. Although it was nearly ten hours from the accident to the time when the intestine and stomach were sutured, no intestinal or gastric juice or fluid escaped, though the intestinal wound was so large, and vomiting occurred three times.

The kidney, I believe, has never before been removed at a laparotomy for gun-shot wound, but it was clearly the right thing to do. The day following the operation, the remaining kidney worked badly, only three-and-a-half ounces of albuminous urine being secreted. But the next two days dispelled all anxiety on this score, the urine rising to twenty-four and forty ounces, respectively, and the albumen soon disappeared. The early and marked compensatory enlargement of the right kidney is also of great interest and importance, though, of course, now well known to follow nephrectomy.

#### DISCUSSION.

DR. P. S. CONNER, of Cincinnati. If the temperature remains sub-normal, four, five or six hours, prostration and perforation may be considered almost certain. Diagnostical laparotomy is admirable in certain cases. In private practice we have to be largely governed by the opinions of the patients and their friends. Many of these cases necessarily involve legal investigation, and it is a very simple matter to show that death resulted not from the original injury but from the surgeon's knife. While I think that it is wise to lay down the general rule that penetrating wounds of the abdomen and still more perforating wounds of the viscera should be submitted to laparotomy, at the same time I think we are not justified in laying this down as a hard and fast rule.

DR. MOSES GUNN, of Chicago. When Dr. Sims proposed this operation a few years ago, the profession were not ready to accept it. I think that we are now all prepared to say that it is a proper measure to pursue, but the only question is how to make the diagnosis? We have, as has been said, no positive signs of visceral injury. I think that we are fully warranted in saying that we may resort to laparotomy for purposes of diagnosis when we are in doubt.

DR. T. RICHARDSON, of New Orleans. Looking over the statistics of the Charity Hospital of New Orleans, I find that in the last five years there have been thirty-one cases of penetrating knife wounds of the abdomen, of which twenty-four recovered and seven died. There were thirty-three cases of gun-shot wound of the abdomen with thirteen recoveries and twenty deaths. Laparotomy was performed in one of the fatal cases of gun-shot wound; all the other were treated on the expectant plan.

DR. D. HAYES AGNEW, of Philadelphia. I have very strong convictions in regard to laparotomy. I believe that where there is a reasonable degree of evidence that there is a penetrating wound of the abdominal wall, especially if a shot wound, it is the surgeon's duty to make an exploratory incision. We are not to be deterred by the possibility of some legal technicality if the case should come into court. We are to do our duty without reference to the consequences.

(To be continued.)

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SEVENTY-THIRD ANNUAL REPORT OF THE  
MASSACHUSETTS GENERAL HOSPITAL AND  
MCLEAN ASYLUM.

The report of the Massachusetts General Hospital and the McLean Asylum, for 1886 (the seventy-third annual report), contains the usual items of information.

The whole number of patients received at the Hospital in the course of the year was 2,580—1,142 men, 948 women, and 190 children—of whom 21 were under two years old. For the year 1885 it was 2,327—1,351 men, 794 women, and 182 children—33 of whom were under the age of two. The average number of patients in the Hospital was 173 (males 99, females 74), of whom, on the average, 152 had free beds. Last year, the average number of patients was 167, with an average of 150 free beds. The number of new patients treated in the out-patient department during the year was 17,925. At the Convalescent Home, there were, in the course of the year, 308 patients.

The proportion of deaths to the whole number of results among those treated in the Hospital was 7.53 per cent. The number of patients received on account of accident was 471. The average number of paying patients was 21: Americans, 15; foreigners, 6. The average number in private rooms was 6.1. The average number of free patients was 152: Americans, 75; foreigners, 77. The average time of paying patients was 2.78 weeks, and that of free patients, 3.72. The proportion of ward beds occupied by free patients was 85 per cent.; by paying patients, 15 per cent. Of the free patients, 12 per cent. were female domestics; 20 per cent. were laborers; 15 per cent. were mechanics; and 9 per cent. were minors. The surgical patients, as usual, exceed the medical in numbers.

There was received during the year \$70,403.71, of which \$65,383 are for the benefit of the Hospital, and \$5,020 for that of the Convalescent Home. From the report of the Treasurer, it appears that the ordinary expenses of the Hospital, Asylum, and Convalescent Home, taken together, exceed the entire income of

the Corporation by the sum of \$11,730.21. This amount, with the sum of \$12,679.93 for permanent improvements at Belmont, and \$17,342.41 for the construction of the second sanitary tower at the Hospital, makes an aggregate of \$41,759.55. This sum, representing the excess of the ordinary and extraordinary expenses of the Hospital over its income, has been drawn, as usual, from the permanent general invested funds of the Hospital. The excess of the ordinary expenses over the income is substantially due to the number of free beds at the Hospital. That this deficit should cease to exist, without curtailing the number of free beds, large additions to the subscriptions to free beds are considered necessary by the trustees. There were quite numerous changes in the medical and surgical staff during the year, among which may be mentioned the resignation of Dr. Henry J. Bigelow, after a service of forty years, and the declining of a re-election by Dr. George C. Shattuck, after a service of thirty-six years. Dr. John W. Pratt succeeded the late Dr. Whittemore in the administration.

In regard to the beneficent work of the year at the McLean Asylum for the Insane, the Superintendent, Dr. Cowles, reports that the numbers admitted, discharged, and recovered, and the daily average under treatment, differed by only one or two persons from that of last year. With one less recovery, the percentage of recoveries on admissions was increased two-tenths. The number of voluntary cases admitted was one-third of all the admissions. The percentage of recoveries furnished by this class of patients was eight less than its due proportion, showing that no advantage in this regard is derived from this class.

The average number of patients under treatment for six years, and the average cost per week for each patient, are shown by the following figures:

	1881.	1882.	1883.	1884.	1885.	1886.
Daily average number of patients, . . . . .	149	155	164	166	171	169
Average cost per week, . . . . .	\$16.92	\$17.02	\$16.16	\$16.00	\$15.72	\$15.84

This includes all extraordinary expenses for repairs and alterations and improvements.

The little difference in the general results of the last two years emphasizes the fact that the asylum is doing about the maximum amount of work, with its wards fully occupied. Its general condition, and the hope, as well as need, of having new buildings at Belmont in the near future—the erection of which is only delayed by the lack of funds—are, in many ways, limitations to present progress.

The event of the year has been the graduation from the Training School, established a few years ago, of the first class of trained nurses, sixteen in number. A composite photograph of this class shows a high average of intelligence and character, as revealed in the features. Such nurses, trained in attendance upon the mentally afflicted, cannot fail to be of much use in the hospital, and a real blessing to the community at large. Here is a noble field for intelligent, healthy, young women longing for a vocation.

The Treasurer gives the gratifying information that the receipts at the McLean Asylum exceeded the expenses, which were \$144,374, by \$4,004.

#### IS THE FREE DRINKING OF WATER WITH MEALS INJURIOUS?

THE older physiologists generally answer the above question in the negative; most recent authorities see little evil in a moderate—not excessive—ingestion of drinks at meal-time.

Dr. A. W. P. Leuf has published an article in the *Medical News* (April 16, 1887), in which he advocates the free use of water with meals. When ingested during meals, he says, water does good by washing out the digested food, and by exposing new surfaces to be acted upon by the gastric juice. Pepsin is a catalytic body, and a given quantity will work indefinitely, provided the effects of its work are constantly removed, so as to enable this catalytic body to come in contact with new material.

Dr. Leuf also finds that water drank freely before meals is beneficial by thinning and washing out accumulated mucus, increasing the fulness of the capillaries of the stomach, and favoring peristalsis of the whole alimentary tract. The clean hyperæmic mucous membrane is then in excellent condition to receive food. Moreover, the stomach is distended by the drink, and its rugæ to some extent obliterated. Dr. Leuf has found by repeated vivisections of animals, and post-mortem examinations of healthy men dying by violence some time after meals, that the shape of the stomach varies with the degree of distension. The empty stomach, called the "tubular stomach," is of small calibre, the mucous membrane being deeply corrugated or folded, the muscular coat contracted and thickened. Gaseous distension, though frequently observed, is not the rule, nor is it strictly physiological. The flow of mucus is constant, and is especially noticeable during the intervals between the periods of digestion. Mucus is normally secreted during the night, and the gastric walls in the morning are covered with a thick, tenacious coat of this substance. If food enters at this time, it will become covered with a coating of this tenacious mucus, which may for a time hinder digestion. The tubular contracted stomach with its puckered mucus lining, always normal in the morning before breakfast, is not in a condition to receive food. The mucus it contains interferes with proper digestion, and its firm contraction is an obstacle to the free circulation of blood through its vessels. A goblet of water taken before breakfast washes out this mucus, partly distends the stomach, wakes up peristalsis, and thus prepares the alimentary canal for the morning meal. He finds, moreover, that non-irritating liquids pass directly through the tubular stomach; they do, likewise, if the stomach contains food, and in such cases pass along the lesser curvature, they neither mingle with the alimentary bolus, nor impair

the action of gastric juice in the latter. Cold water should be given to those who have the power to react, and hot water to all others. In chronic gastric, especially catarrh, it is very advantageous to drink warm or hot water before meals, and salt may be added with additional benefit in almost all instances.

#### TREATMENT OF ACUTE PHTHISIS.

LEPINE, Professor of the Faculty of Medicine of Lyons, treats acute miliary tuberculosis with large doses of iodide of sodium, fifteen to twenty grammes daily to an adult patient being, in his estimation, not too much. He gives this salt, as constituting, according to him, the most efficient "microbicide" in this disease, and claims good results therefrom. "The iodide of potassium," he says, "has rendered incontestable service in tuberculous meningitis, as many competent observers have proved, as also in the fever of phthisical patients, when this is due to a fresh crop of granulations. Quite recently, Gosselin has vaunted iodoform, and has found that the evolution of tuberculous lesions is retarded, and even prevented thereby." Lepine prefers the sodium to the potassium salt, as being better borne by the economy in the large doses required.

Recent experiments of Raymond and Artaud indicate the possibility of benefits being derived from the prolonged administration of tannin in acute phthisis. These experimenters claim to have rendered hæmorrhagic to inoculation by tubercles by subjecting them for a month to daily doses of fifteen grains of tannin. They also affirm that they have witnessed decided amelioration, in the acute forms of phthisis, from the administration of from fifteen to seventy-five grains of tannin.

#### MEDICAL NOTES.

—Five hundred and seventy-six deaths from cholera were registered at Buenos Ayres during the two months ending February 28, 1887. It is reported that cholera disappeared in the month of March.

—A man died at Key West on the 20th inst., from yellow fever, and his wife and sister are both ill with the same disease. Tampa, the nearest connecting point by sea, has been quarantined against Key West.

—Doctor's office, St. Louis. Enter a lady with a sick dog. "My dear Dr. —, you must not be angry with me, but won't you please cut off this tumor on poor Fannie's flank?" "Well, madam, I would do anything to oblige you, but this is a little out of my line. Why don't you take the dog to a veterinary surgeon?" "But, Doctor, those veterinaries are so expensive. I supposed you could do it just as well." — *St. Louis Republican*.

—In the preface to the last edition of an English medical work entitled "What to Do in Cases of Poisoning," the author, Dr. Murrell, says: "This work

has reached a fifth edition, but it is not my fault, and I disclaim all responsibility in the matter. I am told that it has been the means of saving many lives, and I have no doubt this is true, for I hear that a gentleman who thought of poisoning himself, changed his mind on reading the directions for treatment."

—The *Lancet* quotes Dr. Gluzinski, writing in a Polish journal, as stating that, in cases of catarrhal jaundice, he has found excellent results follow the treatment recommended by Krull, namely, the repeated injection into the bowel of large quantities of cold water. This increases the peristaltic action of the intestines, and removes any mechanical obstacle to the flow of bile. Again, as has been shown by Röhrig and Mosler, who injected large quantities of cold water into dogs, the bile is thus rendered both more liquid and more abundant, so that it more easily overcomes any obstruction. At first, water at 59° F. is injected into the bowel until the patient complains of a feeling of distension in the abdomen. He is then made to retain it as long as possible. Most patients manage to retain two litres for from a quarter to half an hour. The next day the enema is repeated, but with water about 4° higher. The temperature is again raised on each succeeding day, but when 72° have been reached, no further increase is made. The reason of the increase is that the repeated introduction of cold water is apt to irritate the mucous membrane of the bowel. Altogether, four or five enemata are sufficient to produce the desired effect. The increase of the biliary secretion may be judged of by the color of the feces. Of course, the diet is attended to, in order to prevent a recurrence of the affection.

#### BOSTON AND NEW ENGLAND.

—At the annual meeting of the Norfolk District Medical Society, held May 10th, the following officers were elected: President, Dr. William P. Bolles, Roxbury. Vice-President, Dr. G. D. Townshend, Roxbury. Secretary and Librarian, Dr. S. A. Potter, Roxbury. Treasurer, Dr. E. G. Morse, Roxbury. Commissioner of Trials, Dr. J. Stedman, Jamaica Plain. Nominating Councillor, Dr. O. F. Rogers, Dorchester. Censors, Drs. H. C. Ernst, Jamaica Plain; H. W. White, Roxbury; H. W. Broughton, Jamaica Plain; S. M. Crawford, Roxbury; F. W. Vogel, Roxbury. Councillors, Drs. O. F. Rogers, Dorchester; G. E. Meeuen, Roxbury; G. W. Clement, Roxbury; J. W. Chase, Dedham; E. L. Farr, Roxbury; G. K. Sabine, Brookline; G. D. Townshend, Roxbury; C. A. Bemis, West Medway; C. F. Withington, Roxbury; G. O. Allen, West Roxbury; W. C. B. Fifield, Dorchester; N. Call, Roxbury; A. D. Kingsbury, Needham; E. P. Gerry, Jamaica Plain; H. R. Stedman, Roslindale.

—*A propos* of the recent resolutions adopted by the Suffolk District Medical Society, regarding the system of milk delivery in and around Boston, a correspondent writes—"There is a decided need of an inspector of bungs, or the stoppers used in the top of milk cans. This source of contamination seems to be

completely overlooked, but after careful and studious selections of samples of milk, in widely different localities in Boston, during three years or more, I have come to the conclusion that the wooden stoppers are not renewed as often as needed to insure a wholesome, pure taste to the milk. Some of the samples I have tried to use as drink were so bad that no other taste could be found that would assist in smuggling the article into the stomach. Scalding the bungs would perhaps be of a certain advantage, but as cheap as wood can be had, there need be no excuse to keep the bung in use after it has that sour wood taste, such as is often smelled in oysters transported from fifty to one hundred miles away from the salt water and allowed to remain from twenty-four to forty-eight hours in the wooden keg or pail until sold. The taste of the wood in each of the above cases, is identical, and does not take a very keen observer to detect it. Milk distributed in the smaller cities and towns has none of this bad taste."

#### NEW YORK.

—Dr. Cyrus Edson, of the Health Department, lately seized two car-loads of tainted meat, which it was intended to manufacture into bologna sausages.

—By the will of the late Oliver Hoyt, the Methodist Episcopal Hospital, of Brooklyn, receives a gift of \$20,000.

—Dr. Charles L. Dana has been elected Chairman of the Section on Theory and Practice of the New York Academy of Medicine.

—At a meeting of the Board of Charities and Correction, held May 19th, Dr. Charles E. Simmons was elected President, and he is probably the first medical President that the Board has ever had. Dr. Simmons is said to have several plans in view for developing improvements in the management of the interests in charge of the commissioners, among which are the establishment of a model prison on Riker's Island, and the carrying out of the cottage system in the treatment of the insane on the farm at Central Islip, Long Island, recently purchased by the city authorities for that purpose.

—Governor Hill has nominated Dr. Charles Phelps for Health officer of the port of New York, *vice* Dr. Wm. M. Smith, whose term of service has expired, and who will be remembered to have suffered, justly or unjustly, in reputation, from the developments of the recent rag disinfection suits brought in that city. Dr. Phelps is well and favorably known, and his appointment seems to have met with favor from the medical profession.

#### CHICAGO.

—*Regulation of the Practice of Medicine in Illinois.*—Illinois enjoys the distinction of having led our States in the enactment of laws regulating the practice of medicine in a good way—that is, a good way in the eyes of some, perhaps most, of the regular and reputable profession. Whether or not a majority of

its own medical men thought the law a good one, and that it was "driving out the quacks," certainly public sentiment elsewhere regarded this as a fact, hence laws similar in character were enacted in other States. Certainly it has been more difficult than formerly, in Illinois, for irregular practitioners to ply their vocation. Still many quacks of various sorts and kinds — especially those who had practised ten years at the time of the adoption of the law — have thriven in spite of the law and the State Board of Health, which latter is specially charged with the execution of the law. One or two decisions of the courts have made it nearly useless for the Board to attempt to discipline men for any species or degree of irregularity, provided the victim resisted through the courts. An amendment to the law was introduced into the Legislature, now in session, the effect of which would be to stop flagrant quackery at least. This amendment has just now been defeated in the lower house by a considerable majority, it is said through the influence of a powerful lobby of quacks and their friends. The real cause of the defeat of the measure is said to be the fact that it was a blow apparently aimed at the just now very prevalent delusion of the metaphysical cure. It was a mistake on the part of the Board to suppose it could secure a majority of the lower house, to censure even indirectly this new fashionable craze; too many members or influential constituents — men and women — back of them, have already been struck by this particular fog to make such a consummation possible. The haze will probably be passing off two years hence, when the next legislature meets — possibly something better can be done at that time. But the need of a law to protect the community from imposition in this direction will be less at that time, probably, than it is now — if, indeed, the need exists at all, of which there is some question, since there is a truth in the doctrine that as people like to be humbugged by transparent frauds and falsehoods they should be allowed the privilege. Meanwhile, the newest accession to our bench, Judge Tuthill, before he had finished his first month of service, had sent a fellow to jail for a year for imposing on some poor persons as a voodoo doctor, and getting a small fee. This form of remedy seems to be the only thing left. If Judge Tuthill keeps on this way he will make a record.

— The Illinois State Medical Society has just closed an interesting meeting devoted entirely to the business of the society. There was no social feature, the omission being due wholly to the fact that the National Association meets here next month, when the profession and the public will be asked to open their social arms to the visiting profession.

— The profession here is just now contemplating the outrageous position into which a physician may be placed by an unscrupulous advertiser. The vender of a sulphuretted mineral water seized the opportunity of the present popularity of the rectal injections of gas for consumption, to improve his trade by a flaming

advertisement of the water, with a cut of the apparatus used, and fulsome statements that the gas from this water was a sure cure, etc. From reports of a meeting of the Medical Society, he learned the names of a number of physicians who were using the measure, and embodied their names in the advertisement in such a way as to make it appear that they endorsed in full the statements it contained. The performance has been denounced in a card by all the physicians whose names were used, but this only slightly counteracts the effect of the outcry. It is interesting, anent this subject, to note how generally the profession here is now reaching the conclusion — the only one that ever ought to, or could logically have been formed — that the most desirable, as the only definite and exact way to secure the sulphuretted hydrogen for this kind of medication is through the well-known artificial compound with the sulphide of sodium, and not by means of any natural water.

— The Board of County Commissioners has recently removed the appointment of the attending staff of the Hospital from the domain of politics. It has voted the present staff shall remain during good behavior, and that any vacancies in its membership shall be elected by an Advisory Board of five medical men, whom it has appointed. In case of a vacancy, the staff is to nominate three persons from whom the Advisory Board is to elect one. The Advisory Board, as at present constituted, has a representative from each of three regular medical colleges. The full list is as follows: Drs. W. H. Byford, H. A. Johnson, A. Reeves Jackson, A. H. Foster, and R. G. Bogue. For a number of years past it has been the custom of the County Board to change the Hospital staff annually, each one of the five newly elected members of the Board having appointment of one member of the staff, so that the staff was not only constantly changing, but changing according to the personal and political whims of laymen.

### --- **Miscellany.**

#### THE TREATMENT OF CHOREA.

A NUMBER of recent contributions upon this subject are summed up in the *London Medical Record*. Owen noticed in a case of chorea, treated with four and one-half minims of Fowler's solution three times daily (the dose afterwards increased to five minims), one month after the commencement of the arsenic, bronzing of the nipples, armpits and neck occurred; this became more marked during one month in some of the parts affected, and then gradually diminished. Cases of bronzing following the use of arsenic are not common. Frühwald, of Vienna, has treated cases of chorea with arsenic, administred hypodermically and by the mouth, and compared the results. He gave one to three minims of Fowler's solution hypodermically, and considered that the results were more favorable than dosage by the mouth. Improvement began at the end of a week, and cure was complete — that is, there was absence of incoördination — at the end of

three or four weeks. Joffroy has had good results in the treatment of chorea with chloral. He gave to children of ten years of age one drachm daily, and to children of six to eight, forty-five grains daily, divided into three doses. The treatment was continued for from two weeks to two months. Free cured two cases of chorea, which had been unsuccessfully treated by other drugs, with extract of *cimicifuga*. Nauwerck has published the account of a fatal case of chorea, with the details of a carefully conducted *post-mortem*. The case was one of chorea minor, and died of asthenic pneumonia. To the eye no gross change could be detected in the organs after death, except a few vegetations on the mitral valve. There was a systolic murmur during life. A histological examination showed that the peripheral nerves were quite healthy, and that in the central nervous system there were three kinds of changes. In the medulla oblongata and the pons Varolii there were areas in which there was a great amount of perivascular infiltration, and other areas in which there were slight hemorrhages. Both these kinds of changes have been described by Dickinson. No capillary emboli were found. The third change described by Nauwerck is a degeneration of nerve-fibres, chiefly in the cervical region of the spinal cord. The change consisted in an irregular swelling of the axis-cylinder in parts (the so-called "hypertrophy,") and in fatty degeneration with complete disappearance of some axis-cylinders. These changes did not occupy any particular strand or strands of the cord, but were irregularly distributed. According to Nauwerck, their presence might account for the incoördination.

#### CASES OF LETHARGIC TRANCE.

DR. T. MORE MADDEN, writing in the *Medical Press and Circular*, April 27th, on the subject of lethargy or trance, dissents from the general opinion that this phenomena is so rarely met with as to be of little medical importance. He has no doubt that these conditions are of far more frequent occurrence than is generally supposed, and has, moreover, had reason to know that death is occasionally so exactly thus counterfeited, that there is good cause for fearing the probability of living interment in some cases of hasty burial.

He gives five cases which have come under his personal observation, as follows:

"The first is an instance of so-called hysteric trance: A young lady, Miss R., apparently in perfect health, went into her room after luncheon to make some change of dress. A few minutes afterwards she was found lying on her bed in a profound sleep, from which she could not be awakened. When I first saw her, twenty-four hours later, she was then still sleeping tranquilly, the decubitus being dorsal, respiration scarcely perceptible, pulse 70, and extremely small; her face was pallid, lips motionless and the extremities very cold. At this moment, so death-like was her aspect, that a casual observer might have doubted the possibility of the vital spark still lingering in that apparently inanimate frame on which no external stimulus seemed to produce any sensorial impression, with the exception that the pupils were normal, and responded to light. Sinapisms were applied over the heart and to the legs, where they were left on until vesication was occasioned without causing any evi-

dence of pain. Faradization was also resorted to without effect.

"In this state she remained from the evening of the 31st of December until the afternoon of the 3d of January, when the pulse became completely imperceptible, the surface of the body was icy cold, the respiratory movements apparently ceased, and her condition was to all outward appearance undistinguishable from death. Under the influence of repeated hypodermic injections of sulphuric ether and other remedies, however, she rallied somewhat, and her pulse and temperature again improved. But she still slept on until the morning of the 9th, when she suddenly woke up, and to the great astonishment of those about her called for her clothes, which had been removed from their ordinary place, and wanted to come down to breakfast, without the least consciousness of what had occurred. Her recovery, I may add, was rapid and complete.

"The next case of lethargy that came under my notice was that of a boy, who, after an attack of fever, fell into a state of complete lethargic coma, in which he lay insensible between life and death, for forty-seven days. In this case, as in the last, the patient ultimately recovered perfectly.

"In a third instance of the same kind in a lady under my care, the patient, after a lethargic sleep of twenty-seven days, recovered consciousness for a few hours, and then relapsed into her former comatose condition, in which she died.

"The fourth case of lethargy which I have seen was like the first, a case of trance which lasted for seventy hours, during which the flickering vital spark was only preserved from extinction by the involuntary action of the spinal and nervous centres. In this instance the patient finally recovered.

"The fifth and last instance of profound lethargy that has come within my own observation, occurred last autumn in the Mater Misericordie Hospital, in the case of a young woman under the care of my colleague, Dr. Boyd. In that instance, despite all that medical skill could suggest or unremitting attention could do, it was found impossible to arouse the patient from the apparently hysterical lethargic sleep in which she ultimately sank and died."

#### OBITUARY. WILSON FOX, M.D., F.R.C.P., F.R.S.

Our English exchanges bring tidings of the death of this renowned clinical teacher, which occurred from pneumonia, with heart-failure, the latter the result of long-standing cardiac disease, on the 3d of May, in the fifty-seventh year of his age. Dr. Fox was a descendant of the famous Quaker family of that name. He was the son of an eminent manufacturer at Wellington, and was educated first at Bruce Castle, Tottenham, and afterwards at University College, London; he took the degree of B.A. in the University of London, and he subsequently entered the medical faculty of University College. Among his fellow-students were Sir Joseph Lister, Sir Henry Thompson, Sir William Roberts, Dr. Russell Reynolds, and Dr. Graily Hewitt. After a distinguished career as a student, he took the degree of M.B. in 1854, and that of M.D. in the following year. He was House-Physician at University College Hospital, and subsequently held a similar appointment in the Edinburgh Royal Infirmary. He then went abroad, and spent a considerable time in Berlin, Vienna, and other centres of German thought, where he had the advantage of studying under Virchow, Koelliker, and other eminent teachers. On his return he became physician to the North Staffordshire Infirmary, and soon acquired a considerable practice in Newcastle-under-Lyme. Ill-health induced him to resign his appointment, and to return to London, partly in order to place himself under medical care. From this indisposition he completely recovered, and was ap-

pointed Assistant-Physician to University College Hospital in 1861, at the same time succeeding Sir William Jenner as Professor of Pathological Anatomy.

In 1866, he was elected a Fellow of the College of Physicians, and a few years afterwards, a Fellow of the Royal Society. In 1877, he exchanged the chair he held for that of Holme Professor of Clinical Medicine, the duties of which he performed up to the time of his death, and where he made perhaps his strongest impress, through his admirable qualities as a teacher, on the medical mind of his country. In 1875, he was appointed Physician-Extraordinary, and, at a subsequent date he became Physician-in-Ordinary to Her Majesty.

Dr. Fox's contributions to scientific medicine were numerous and important. One of his earliest researches was on the development of muscular tissue, published in the *Philosophical Transactions*. Another was concerned with the origin and structure of cystic disease of the ovary. His attention was afterwards given specially to diseases of the stomach and of the lungs, and he wrote on both subjects for the *System of Medicine*, edited by Dr. Russell Reynolds. His articles on diseases of the stomach were afterwards republished in an enlarged

form as a separate work. The work, however, for which he was best known was his research into the nature of tubercle; to this he devoted the best energies of his life; for many years, even when he was almost alone among English pathologists, he stuck manfully to his thesis that tuberculosis was a peculiar and special process, and that it was not merely ordinary chronic inflammation, as was the popular German opinion, reflected in this country, until Koch's researches were published. Dr. Fox's experimental researches led him to believe that tuberculosis might be produced by the inoculation of indifferent material, and he expressed this opinion in a lecture delivered before the Royal College of Physicians. The publication of Koch's results, while confirming the correctness of his views as to the special characters of the tubercular process, necessitated a re-modelling of his views as to the etiology of the disease. It was owing to this cause that the publication of his great work on diseases of the lungs, at which he had worked with extraordinary industry for many years, was postponed. It may be hoped that the enormous mass of materials which he had brought together, and the large collection of drawings which he had prepared to illustrate it, may not be lost to the world.

## REPORTED MORTALITY FOR THE WEEK ENDING MAY 14, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from					
				Infectious Diseases.	Acute Lung Diseases.	Diarrheal Diseases.	Diph. & Croup.	Measles.	
New York . . . . .	1,481,920	748	257	15.60	12.35	2.00	8.19	1.17	
Philadelphia . . . . .	493,801	—	—	—	—	—	—	—	
Brooklyn . . . . .	745,108	291	110	15.30	14.28	2.04	2.73	1.70	
Chicago . . . . .	725,000	—	—	—	—	—	—	—	
St. Louis . . . . .	420,000	—	—	—	—	—	—	—	
Baltimore . . . . .	417,000	117	36	11.05	18.70	.85	.85	4.25	
Boston . . . . .	400,000	172	49	11.60	20.88	2.50	3.48	2.32	
New Orleans . . . . .	242,750	159	79	35.28	10.08	25.20	1.89	1.26	
Buffalo . . . . .	225,000	—	—	—	—	—	—	—	
District of Columbia . . . . .	210,000	74	20	8.10	9.35	2.70	1.35	1.35	
Pittsburgh . . . . .	210,000	86	35	17.10	11.61	2.32	8.12	2.32	
Montreal . . . . .	186,257	—	—	—	—	—	—	—	
Milwaukee . . . . .	170,000	—	—	—	—	—	—	—	
Providence . . . . .	121,000	45	16	15.55	15.55	4.44	2.22	—	
Richmond . . . . .	100,000	30	15	13.33	10.00	—	—	3.33	
New Haven . . . . .	80,000	20	5	5.00	10.00	—	—	—	
Nashville . . . . .	65,000	13	7	20.00	6.66	6.66	6.66	—	
Charleston . . . . .	60,145	32	14	—	—	—	—	—	
Portland . . . . .	40,000	14	2	—	14.28	—	—	—	
Worcester . . . . .	68,283	16	2	37.50	6.25	—	12.50	6.25	
Lowell . . . . .	64,061	31	12	9.69	25.84	—	—	6.46	
Cambridge . . . . .	59,660	29	9	17.25	17.25	3.45	6.90	3.45	
Fall River . . . . .	56,863	20	10	15.00	15.00	—	—	—	
Lynn . . . . .	45,861	14	3	—	21.42	—	—	—	
Lawrence . . . . .	38,825	13	4	—	15.38	—	—	—	
Springfield . . . . .	37,577	—	—	—	—	—	—	—	
New Bedford . . . . .	33,383	15	5	6.66	13.33	—	—	—	
Somerville . . . . .	29,922	7	1	28.56	14.28	—	—	14.28	
Salem . . . . .	28,084	15	4	13.33	20.00	—	6.96	—	
Holyoke . . . . .	27,894	—	—	—	—	—	—	—	
Chelsea . . . . .	25,709	8	2	—	25.00	—	—	—	
Taunton . . . . .	23,074	8	1	37.50	12.50	—	—	—	
Haverhill . . . . .	21,736	6	2	—	25.00	—	—	—	
Gloucester . . . . .	21,713	4	0	—	—	—	—	—	
Brookton . . . . .	20,783	7	1	28.56	14.28	—	—	—	
Newton . . . . .	19,759	9	1	11.11	22.22	—	11.11	—	
Malden . . . . .	16,497	4	1	—	25.00	—	—	—	
Fitchburg . . . . .	15,375	3	1	33.33	—	—	—	—	
Waltham . . . . .	14,629	1	0	—	—	—	—	—	
Newburyport . . . . .	12,716	—	0	—	—	—	—	—	
Northampton . . . . .	12,896	7	1	—	28.56	—	—	—	

Deaths reported 2,024: under five years of age 705; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrheal diseases, whooping-cough, erysipelas and fevers) 515; consumption 283; lung diseases 276; diphtheria and croup 110; diarrheal diseases 80; measles 37; scarlet fever 28; malarial fever 22; cerebro-spinal meningitis 13; whooping-cough nine; erysipelas nine; typhoid fever nine; puerperal fever three; small-pox (Cambridge) one. From scarlet fever, New York 11, Brooklyn seven, Boston, Baltimore, District of Columbia, Pittsburgh, Worcester, New Bedford, Salem and Brockton one each. From malarial fever, New Orleans 10, New York six, Brooklyn four, Richmond and Providence one each. From cerebro-spinal meningitis, New York three, Fall River two, Richmond, Pittsburgh, Worcester, Lowell, Somerville, Brockton and Fitchburg one each. From whooping-cough, New York three, Baltimore two, Boston, Richmond, Pittsburgh and Worcester one each. From erysipelas, New York three, Brooklyn two, Boston, Baltimore, Portland and Fall River one each. From typhoid fever, New York, Boston and Baltimore two each, New Orleans, District of

Columbia and New Haven one each. From puerperal fever, New York, Pittsburgh and Nashville one each.

In the 21 cities and greater towns of Massachusetts, with a population of 1,019,014 (population of the State 1,941,465) the total death-rate for the week was 19.28 against 19.29 and 18.54 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,000, for the week ending April 30th, the death-rate was 20.6. Deaths reported 3,647: infants under one year of age 708; acute lung diseases (London) 338; measles 264; whooping-cough 132; scarlet fever 51; diphtheria 43; diphtheria 25, fever 15.

The death-rates ranged from 10.5 in Derby to 35.4 in Cardiff; Birmingham 21.1; Blackburn 30.8; Hull 17.6; Leeds 19.1; Leicester 15.7; Liverpool 27.0; London 18.3; Manchester 27.5; Newcastle-on-Tyne 22.6; Nottingham 18.9; Plymouth 16.9; Sheffield 26.4.

In Edinburgh 20.2; Glasgow 24.9; Dublin 39.3.

The meteorological record for the week ending May 14, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom- eter.	Thermometer.				Relative Humidity.			Direction of Wind.	Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.		7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	
Saturday, May 14, 1887.																
Sunday, . . . 8	30.21	51.6	56.0	46.0	100.0	96.0	93.0	91.0	N.E.	E.	O.	8	0	G.	F.	C.
Monday, . . . 9	30.24	56.0	67.0	49.0	71.0	85.0	88.0	81.0	N.E.	E.	S.E.	8	15	C.	C.	C.
Tuesday, . . . 10	30.11	72.0	85.0	58.0	50.0	31.0	39.0	51.0	S.W.	W.	W.	6	14	C.	C.	C.
Wednesday, . . . 11	30.02	70.0	78.0	61.0	22.0	13.0	27.0	21.0	N.W.	N.W.	N.W.	17	20	F.	C.	C.
Thursday, 12	29.97	62.0	70.0	56.0	26.0	18.0	35.0	26.0	N.	N.W.	N.W.	11	19	F.	C.	C.
Friday, . . . 13	30.11	54.0	57.0	45.0	41.0	32.0	60.0	82.0	N.	E.	S.E.	6	15	C.	C.	C.
Saturday, . . . 14	30.20	54.0	60.0	45.0	60.0	44.0	41.0	48.0	N.W.	E.	S.W.	7	9	C.	F.	C.
Mean, the Week.	30.137	59.4	68.0	51.0				53.3								4 .10

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; SL, Sleet; t., inappreciable.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 14, 1887, TO MAY 20, 1887.

TAYLOR, MORSE K., surgeon. Retired from active service May 14, 1887. S. O. 111, A. G. O., May 14, 1887.

WHITE, R. H. Promoted to be surgeon with the rank of major, to take effect from May 14, 1887.

HALL, JEO. D., captain and assistant surgeon. Granted leave of absence for one month, with permission to apply for his month's extension. S. O. 74, Department of Colorado, May 11, 1887.

SUTER, WILLIAM N. Appointed assistant surgeon, with the rank of first lieutenant, to rank as such from May 16, 1887.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE TWO WEEKS ENDING MAY 21, 1887.

GRAVATT, C. U., surgeon. Detached from the United States Steamship "Michigan."

LUMSDEN, G. P., passed assistant surgeon. Ordered to the United States Steamship "Michigan."

ASHBRIDGE, RICHARD, passed assistant surgeon. Detached from the Naval Academy and to the Practice Ship "Constellation."

STREETS, THOMAS H., passed assistant surgeon. Promoted to surgeon.

CURTIS, I. W., passed assistant surgeon. Ordered to the "Quinnchaug."

BAKER, J. W., passed assistant surgeon. Ordered to the Hospital, Chelsea, Mass.

PRICE, A. F., surgeon. Ordered to board duty, Annapolis, Md.

GRAVATT, C. U., surgeon. Detachment from "Michigan" revoked.

LUMSDEN, G. P., passed assistant surgeon. Orders to the "Michigan" revoked.

SKIFFERED, C. A., surgeon. Ordered to the "Quinnchaug."

PEIRSON, R. C., surgeon. Detached from the "Saratoga."

FAIRWELL, W. G., surgeon. Ordered to the "Saratoga."

DIXON, W. S., surgeon. Ordered to special duty, Baltimore, Md.

ROGERS, B. F., surgeon. Ordered to the Marine Rendezvous, N. Y.

WELLS, HOWARD, passed assistant surgeon. Ordered to the "Jamestown."

WISS, J. C., surgeon. Detached from the "Jamestown."

HARVEY, H. P., surgeon. Ordered to the "Iroquois."

WAGGNER, J. R., surgeon. Detached from the "Iroquois."

WHITE, DR. S. SVART, of Frederick, Md., Commissioned assistant surgeon in the Navy, May 19th.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, FOR THE WEEK ENDING MAY 14, 1887.

FISKENVEX, C. S. D., surgeon. Detailed as chairman of board for physical examination of cadets, Revenue Marine Service, May 13, 1887.

STONER, G. W., surgeon. To proceed to Delaware Breakwater as inspector, and to New York and Philadelphia, to inspect unseaworthy property, May 12, 1887.

IRWIN, FAIRFAX, passed assistant surgeon. Detailed as recorder of board for physical examination of cadets, Revenue Marine Service, May 13, 1887.

TATTIE, J. B., assistant surgeon. Relieved from duty at Baltimore, Md.; ordered to Marine Hospital, St. Louis, Mo., May 13, 1887.

#### SOCIETY NOTICE.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday evening, June 6, 1887, at eight o'clock. Readers: Dr. W. C. Holyoke, "An Outbreak of Typhoid Fever in a Children's Home." Dr. P. C. Knapp, "Cerebral Infantile Paralysis."

CHARLES P. STRONG, M.D., Secretary.

#### DEATH.

Died in Hopkinton, Mass., May 6, 1887, George Augustus Warren, M.D., M.M., S.S., aged sixty-eight years.

#### BOOKS AND PAMPHLETS RECEIVED.

Annual Address delivered before the American Academy of Medicine at Pittsburgh, Pa., October 12, 1886. By R. S. Sutton, A.M., M.D., President of the Academy.

A New Clothing Case for the Soldier. By W. Thornton Parker, M.D., Newport, R. I., late A. A. Surgeon U. S. Army. (Patent applied for.) Newport, R. I. 1887.

Twenty-Seventh Annual Report of the Medical Superintendent of the State Asylum for Insane Criminals, Auburn, N. Y. For the Year ending September 30, 1886. 1887.

Practical Observations on the Gonococcus and Roux's Method of Confirming its Identity. By Charles W. Allen, M.D., Surgeon to Charity Hospital, etc. 1887. (Reprint.)

The Curability of Epilepsy and Epileptoid Affections by Galvanism and the Phosphated and Arsenated Bromides. By C. H. Hughes, M.D., St. Louis, Mo. 1887. (Reprint.)

Elements of Physiological Psychology. A Treatise on the Activities and Nature of the Mind. From the Physical and Experimental Point of View. By George T. Ladd, Professor of Philosophy in Yale University. New York: Charles Scribner's Sons. 1887.

A Report of Analyses of Samples of Water and Ice from the Mississippi, Minnesota and St. Croix Rivers, made in the Laboratory of the State Board of Health of Minnesota, in November and December, 1886. By Charles Stuart, Major and Surgeon, U. S. A. 1887. (Reprint.)

A Companion to the United States Pharmacopœia. Being a Commentary on the latest Edition of the Pharmacopœia and containing Descriptions, Properties, Uses and Doses of all Official and Numerous Unofficial Drugs and Preparations in Current Use in the United States, together with Practical Hints, working Formulas, etc. Being designed as a ready reference book for Pharmacists, Physicians and Students. With over 650 original illustrations. By Oscar Goldberg, Pharm. D., and Otto A. Wall, M.D., Ph.D. Second revised edition. New York: Wm. Wood & Co. 1887.

## Original Articles.

A CASE OF HYSTERECTOMY FOR THE RELIEF OF PYELITIS FROM OBSTRUCTION.<sup>1</sup>

BY A. T. CADOT, M.D.,

*Surgeon to the Massachusetts General, and to the Boston Children's Hospital; Clinical Instructor in Genito-Urinary Surgery in Harvard University.*

BEFORE proceeding to the consideration of the case I have to report, I wish to allude briefly to the post-mortem examination of another case, which I saw during the last days of life, and which illustrated very well the condition to which my patient might have expected to come, had she not been relieved by operation.

In August, 1886, I saw a lady of over seventy, who had, for years, carried a fibroid tumor of the uterus of moderate size. Many years before, she had suffered much from it, but it had finally become quiescent, and had gradually hardened and settled down into the pelvis. She had been troubled for a long time with frequency of micturition, and about a year and a half before I saw her, after a fall, she had an acute attack of pelvic inflammation, with an aggravation of urinary symptoms.

The urine, at this time, became loaded with pus, and during the year before her death, she on several occasions passed small bits of phosphatic material. The pain in the bladder gradually increased in severity, urination became extremely frequent, with almost constant tenesmus, and she finally died in a uræmic condition, with suppression of urine.

For the notes of the autopsy, I am indebted to Dr. H. C. Ernst, who made the examination.

He found that the fibroid, which sprang from the anterior uterine wall, and weighed four-and-a-half pounds, was almost completely calcified, and was so matted down into the pelvis by inflammatory adhesions, that it was with great difficulty that it could be dissected out, with the bladder and rectum adherent to it.

The bladder was very much contracted, and the walls thinned, evidently by pressure. It contained but a few drops of thick, ammoniacal urine.

The urethra was normal, but the ureters, in their passage over the brim of the pelvis, had been pressed upon by the uterine tumor, so that above this point they were much dilated, having the calibre, on both sides, of a very large lead pencil. Their walls were much thickened and congested, and a little pus was found in each.

The kidneys were large and soft, very dark-red in color, with their capsules extremely adherent. The pelvis were much dilated, and full of masses of phosphatic material.

The secreting substance of the kidneys was diminished in amount, of a dull red color, with well-marked Malpighian corpuscles. The proportions between the medulla and cortex were very little altered.

We had here, then, an obstruction of the ureters by the pressure of a uterine fibroid, leading to chronic pyelitis, and finally, to pyelo-nephritis and death. In this case, the symptoms of obstruction to the ureters came on late in the history of the fibroid, and were possibly due to the settling of the tumor into the pelvis, and to the strong adhesions which it contracted in that position.

In the case which I have now to report, pyelitis occurred as an early symptom, while the removal of the tumor was yet possible.

Christine McL., aged twenty-five, a pale and thin young woman, was referred to me by Dr. J. E. Garland, of Gloucester, in December, 1886. She had a tumor, about the size of a child's head, occupying the lower median part of the abdomen, and projecting deep into the pelvis in Douglas's pouch. The os uteri was to be felt anteriorly, high up, and the body could be indistinctly made out behind the pubes. Above this, a little to the right of the umbilicus, was a second tumor, about as large as a small orange, somewhat movable, but seemingly attached by pedicle to the larger growth below.

In neither of these tumors could any fluctuation be detected, but over the whole anterior surface of the larger one, was a layer of fluid, which the passage of a catheter showed to be in the bladder, which was flattened and pressed up against the abdominal wall.

The patient discovered the existence of a tumor about two years before, since which time its growth had been slow, but steady. At first there had not been much pain, but within the last six months she had had intermittent attacks of abdominal and pelvic pain, which were brought on usually by exertion, and incapacitated her from work.

Micturition had lately been much increased in frequency, often coming with intervals of but half-an-hour. The urine was alkaline, with a specific gravity of 1012. It contained considerable sediment, which consisted of pus, a little blood, bladder and vaginal epithelial cells, and triple phosphate crystals.

The diagnosis was of either a fibroid, or an extremely tense, thick-walled cyst, wedged behind the uterus. The smaller tumor above was thought to be an accessory cyst or fibroid. The condition of the urine, and the character of the micturition, was ascribed to cystitis from pressure. At my advice, she entered the Massachusetts General Hospital.

Owing to absence from the city, I did not see her again for two weeks, when, on my return, I found her in bed in a febrile condition, with evening exacerbations of temperature. She was suffering from pretty severe abdominal pain, and there was considerable tenderness, especially about the small tumor. It seeming probable that suppuration was starting in connection with one or other of the tumors, the patient was etherized, and the abdomen was opened. It was found that the large growth was a fibroid, starting from the posterior uterine wall, and firmly fixed in the pelvis, from which it could not be dislodged by any ordinary force. The smaller one was a little ovarian cyst, which, in consequence, apparently, of the pressure of the fibroid on its pedicle, was in a sloughing condition.

This cyst was removed, and, in view of the feeble, feverish state of the patient, it was thought best, in the absence of special indications, to leave the fibroid. The other ovary was sought, but was fixed so deeply in the pelvis, behind the uterine tumor, that it could not be removed. The fever now disappeared, and the patient recovered quickly from this operation.

During her stay in bed, with the aid of bladder irrigation, the urine lost its alkalinity, and the frequency of micturition came down to about what is normal. Before she was able to be up, however, she began to have pain through the left side of the back, and in the lower part of the abdomen on that side.

<sup>1</sup> Read before the Association of Genito-Urinary Surgeons, at its meeting, May 17 and 18, 1887.

It was now noticed that the pus, which was quite abundant, came intermittently, so that while one passage of urine was almost clear, the next would contain perhaps half-an-ounce of sediment. This made it evident that the bladder must be reasonably free from inflammation, and Professor Wood now made a second thorough examination of the urine, and found evidence that chronic pyelitis was present.

The varying character of the urine showed that probably but one kidney was as yet affected, and the pain in the left side of the back pointed to that kidney as the one at fault. No enlargement of the organ could be discovered. The character of the fibroid and the way in which it pressed down into the pelvis put it almost beyond doubt that that was causing obstruction of the ureter, and consequent pyelitis.

The condition being explained to the patient, she understanding that at her age the disease could not be expected to come to a standstill or go backwards, chose the alternative of an operation for the removal of the fibroid.

This was done on March 1, 1887. An incision was made close alongside of the old cicatrix. In this, as in the former operation, considerable care was taken to avoid wounding the bladder. The tumor seemed firmly fixed in the pelvis, but rather through being wedged there, than by reason of any adhesions.

With the vigorous aid of an assistant pressing up from the vagina, it was finally dislodged and lifted out: the pedicle was constricted by the wire of an écraseur, and the mass was cut off. The body of the uterus was removed with the tumor, and only the lower part of the cervix was left. The pedicle was treated extra-peritoneally, the écraseur being left in place.

The shock of the operation was great, but the patient slowly rallied, and made a good recovery, leaving the hospital early in April. The pains in the abdomen and renal region disappeared after the operation, and the urine slowly cleared up, until, when she was last seen, it was but slightly cloudy.

The patient rapidly regained strength, and towards the end of April was talking of going to work, but a longer rest was advised.

#### INTUBATION OF THE LARYNX AT THE BOSTON CITY HOSPITAL.

BY W. H. PRESCOTT, House Surgeon.

IN view of the prominence which intubation has obtained during the last year, a report of the operations which have been done at the Boston City Hospital may be of interest.

When first brought forward, the operation was viewed with disfavor by the visiting surgeons, and it was not until December 30, 1886, that the first one was performed. In November, one of the staff tried to insert a tube, and probably succeeded, but not being satisfied with the child's breathing, he withdrew it, and performed tracheotomy.

On December 30th, the first operation was done without any difficulty, and the case is reported as No. I. Since then, the operation has been done nine times. In most cases, the relief from dyspnea has been as marked as after tracheotomy, and, as is usual after the latter, the patient immediately fell asleep, although some were disturbed by the cough which the string occasioned. At first, the feeling that it would not be possible to extract the tube (if there was urgent dysp-

nea) prevented the cutting of the silk thread which is attached to the tube at the time of insertion, and this thread was probably the cause of two of the accidents which have happened. In two cases the silk was removed, and no trouble arose, and there was no especial difficulty in extracting the tube.

In one case where intubation was attempted, the child stopped breathing, apparently from spasm of the glottis, and tracheotomy was immediately done. In another case it was found impossible, after several trials, to insert the tube. I know of no reason, except lack of skill.

In two of the cases the membrane covered the parts so completely, that the guiding finger could not distinguish one part from another. In these cases, the tube was easily inserted by keeping in the median line, and waiting for the child to gasp.

Of the following cases, Nos. I and IV occurred in the service of Dr. Bradford; Nos. II, III, and V, in that of Dr. Bolles; Nos. IX and X in that of Dr. Gay; and Nos. VI, VII, and VIII, in that of Dr. Post.

CASE I. C. B., five years old. Eight weeks before entrance had scarlet fever, from which he had never fully recovered. December 13th, was taken sick with diphtheria, and entered the hospital on the medical side, December 21st. On morning of December 30th, became cyanosed for a short time, and afterwards had considerable dyspnea. Transferred to surgical side. Physical examination: Well developed and poorly nourished; membrane on pharynx, tonsils, and uvula; dyspnea; retraction of chest-walls during inspiration; loss of voice. Intubation (string left in) gave immediate relief to dyspnea. Was comfortable for sixty hours, when he became cyanosed again. Tube removed, and found to be plugged with membrane. Tube cleaned and replaced (silk not removed). Tube coughed up, and swallowed inside of five minutes. No symptoms referable to the tube, which was never recovered. No return of dyspnea. Much membrane still left in throat. Child very weak. Gradually failed, and died, evidently from exhaustion, January 9th. No autopsy.

CASE II. O. T., three years old. December 24th. Taken sick nine days before entrance. Slight cough, and some croupy breathing. Two days before entrance "choked up." No further history. Physical examination: Well developed and nourished; breathing harsh and croupy; some retraction; membrane in throat. Steam; poultice to neck. Continued fairly comfortable, with occasional attacks of dyspnea (relieved by the vomiting produced by *vin. ipecac.*), until January 1st, when breathing became labored, and intubation was done. Immediate relief to dyspnea. Coughed up considerable mucus. Was comfortable until next morning, when had an attack of dyspnea. Tube removed, and found to be plugged with thick mucus; cleaned and replaced. No return of dyspnea. Death the same day, from infection.

CASE III. A. L., three years old. January 13th. Four days before entrance, slight cough, with some vomiting. Last night, dyspnea and loss of voice. Physical examination: Well developed and nourished; anxious expression; no cyanosis; no retraction; croupy cough; membrane in pharynx. Steam; stimulants, *tr. ferri chloridi*, gr. v., *t.i.d.* Comfortable until 15th, when breathing became labored. Retraction. Intubation. Much relief (string left in). Next day, restless. Tube coughed up; replaced. Patient quiet and comfortable until 18th, when had "choking spell." Tube

removed. Breathing easy for a few hours, when it became labored. Tube replaced. Comfortable until 22d, when had another attack of dyspnoea, and when the house-officer arrived, he could not find the tube, but the breathing was easy. Next day, the tube was removed from the rectum. No further dyspnoea; and from this time the child made an uninterrupted and rapid recovery, and was discharged, January 27th, well.

CASE IV. G. F., seven years old. February 13, 1887. Previous history not ascertained. Child brought in suffering from extreme dyspnoea, with marked cyanosis and eruption of measles; loss of voice; retraction of chest-walls during inspiration. Intubation was followed by relief to dyspnoea; quiet for a short time, then became cyanosed. Tube removed. Breathing quiet. Death within seven hours of entrance, due to septicaemia.

CASE V. G. H. February 19, 1887. No history. Physical examination: Fairly developed; poorly nourished; nearly moribund; cyanosis; retraction; no membrane on pillars; pulse weak, rapid, and feeble. Intubation gave relief to dyspnoea. Had several slight attacks of dyspnoea. Death next day, from extension and septicaemia.

CASE VI. A. H., fourteen months old. May 5, 1887. Two weeks ago was feverish. Had nasal discharge but no cough. Gradually grew worse, and yesterday had dyspnoea. Mother at same time noticed membrane in expectorations and in throat. Physical examination: Well developed; fairly nourished; nursing; membrane in throat; nasal discharge; retraction; no cyanosis. Intubation (string left in). Child could still nurse. No further dyspnoea. Death in twenty hours, from septicaemic infection.

CASE VII. W. S., five years old. May 13, 1887. Has had enlarged tonsils, with considerable purulent expectoration, for some years. Four days ago had headache and fever. No vomiting; patches in throat; some dyspnoea; very weak; bowels constipated. This morning lost his voice, and had considerable dyspnoea but no nasal discharge. Physical examination showed well-developed and fairly nourished boy. Pharynx, tonsils, and uvula covered with very thick membrane; retraction; cyanosis; loss of voice. Intubation was followed by relief. Failed gradually. Death in two days, from septicaemia.

CASE VIII. R. M., five years old. May 13, 1887. Five days ago complained of sore throat; was better next day. Two days ago began to cough. No nasal discharge. Was hoarse yesterday, and last night had considerable dyspnoea. This morning lost his voice, and dyspnoea became urgent. Physical examination: Well developed and nourished; considerable dyspnoea; loss of voice; retraction; membrane in throat. Intubation (string removed). Very comfortable for twenty-four hours, when temperature began to rise and an eruption (measles) appeared on body. Respirations became more frequent, but without dyspnoea. Tube was removed on the fifth day. Death that night from exhaustion and complications.

CASE IX. J. D., five years old. May 17, 1887. Has been sick a week; dyspnoea yesterday; nothing further obtained. Physical examination: poorly developed and nourished; membrane on pharynx and uvula; dyspnoea; retraction; loss of voice. Intubation (string removed.) Tube lost next day; considerable dyspnoea; not possible to reinsert a tube. Tracheotomy advised, but not allowed. Since then the

condition of the patient has steadily improved. Dyspnoea persisted for some days with occasional paroxysms of difficult breathing. May 22d his temperature was 99°, pulse 115, respirations 28. Pulse good and strong. Appetite very good. Still in hospital. Nothing has been seen of the tube.

CASE X. H. N., five years old. May 21, 1887. Has been sick a few days with cough and sore throat; some dyspnoea; loss of voice. Physical examination: well developed and poorly nourished. Some retraction; dyspnoea; croupy cough; no voice. Steam, poultices, and brandy prescribed. Soon after entrance had a severe attack of dyspnoea, with cyanosis. Intubation (string retained), gave immediate relief to dyspnoea, but pulse very weak and feeble. Patient soon revived, and was very comfortable until 9 P.M., May 22d, when he seemed to have some obstruction. The tube was removed and reinserted, but the child died within five minutes, without cyanosis. Death in thirty-six hours after entrance from heart failure.

There were two mistakes made in No. I; first, leaving the silk attached; second, in not using a larger tube when it was thought necessary to reinsert one. Dr. O'Dwyer says the tube is never swallowed unless the silk is left in; but in Case IX, the silk was removed, and the disappearance of the tube can be accounted for only on the supposition that it was swallowed.

The swallowing of the tube in Case III may have been due to the silk.

Case IV seemed a hopeless one, and the operation was done without any expectation of saving the child's life, but merely to prevent strangulation.

Case VI was of interest from the fact that the child nursed without difficulty, while the tube was in the larynx.

Case VII seemed hopeless when he came in, but the relief to dyspnoea was very marked.

Case VIII illustrates another point made by Dr. O'Dwyer. On inserting the tube there was an increase in the dyspnoea, and the tube was immediately coughed up. It was found plugged with a piece of membrane, two inches long, the lower part of which was a complete cast of the trachea. On the second insertion no further trouble occurred.

In Case IX the silk was removed, and it is not known where the tube has gone, as he had no symptoms from it.

The treatment has been the same as in tracheotomy, namely: light steam, stimulants, poultice over chest; Dobell's solution<sup>1</sup> as a throat spray. A solution of corrosive sublimate (1 to 15,000) was applied to nasal mucous membrane when there was any nasal discharge. Occasionally small doses of the bichloride of mercury were given. Tincture of digitalis, in small doses, was also given when the urine was scanty, and pepsin to assist digestion, when necessary. At first nourishment was given in enemata, but it was soon found that all the nourishment needed could be given by mouth, without difficulty. Semi-solids cause the least trouble. The first and last "swallows" are the ones that cause the coughing which is always set up, and so it is best to let the child take a mug of milk and drink it rapidly. Although this is a rule, Case VIII was an ex-

<sup>1</sup> Dobell's solution :-  
R Carbolic acid . . . . . 3 iss  
Borax . . . . . ss 3i  
Bicarb. soda . . . . . 3 iiss  
Glycerine . . . . . 3 iiss  
Water . . . . . ad Oiv.

ception. This child took liquids best from a teaspoon, while lying on its back. Milk, beef-tea, chicken-broth, ice-cream and custards were given.

The advantages of intubation, as compared with tracheotomy, are: (1) There is no wound, and therefore it will be allowed where tracheotomy might not be. (2) There is not added another source by means of which infection may take place. (3) It can be done more quickly. (4) It is less troublesome both in its performance and its after care. (5) There is not as much discharge. (6) The shock is not as great. (7) No anæsthetic is needed.

The great disadvantage is that the parts below the larynx cannot be kept as free from mucus and membrane as in tracheotomy. Although the fact that intubation can be done more quickly has been put as an advantage, I do not wish to imply that it is a simple procedure. It is not easy, and should be done with a great deal of care and very little force. The statement has been made that it is easier to put a tube into the larynx than into the œsophagus; the experience at the hospital does not bear out the statement.

The method of inserting the tube, as done at the hospital, is as follows: The tube with the silk attached having been put upon the obturator the child should be held upright by an assistant, sitting in a chair facing the operator, with its head held firmly and a little forwards. The gag is introduced on the right side and kept as far back as possible. The operator then introduces his left forefinger into the mouth and passes it downward and backward until he feels the epiglottis; he now passes the tube along the palmar surface of his left forefinger (keeping in the median line) until the tube reaches the epiglottis, when, by an upward movement of the right hand, he can easily put it in place. The left forefinger having been placed on the tube the obturator is withdrawn. After a few minutes the breathing being quiet and the tube having again been felt in position the silk suture may be removed and the patient put to bed.

The number of cases is too small to be of much service in forming an opinion as to the relative value of intubation and tracheotomy from the standpoint of percentage of recoveries; for if the statistics of tracheotomy at this hospital are examined, the percentage of recoveries in any given six months will be found to vary from ten per cent, to thirty-five and even forty per cent.

## REPORT ON HISTOLOGY AND EMBRYOLOGY.

BY CHARLES SEDGWICK MINOT.

DURING the past year there have been several important general publications. An American Journal of Morphology, which promises to be of a high scientific character, has been announced by Ginn, Heath & Co., to be edited by Dr. C. O. Whitman, the leading American embryologist. The first number has been unfortunately delayed, so that only the announcement can be chronicled here. From England we have the beautiful memorial edition of Balfour's works in four handsome volumes. With the utmost generosity the family, to whose care we owe this edition, have distributed numerous copies. The papers and essays gain by collation, and reveal advantageously the genius of the young author. His researches represent a body of work such as few men have accomplished at so

early an age. From the very first he tussled with the great problems of morphology, and sought their solution through embryology, for with the insight of superiority he recognized from the start that embryology is the key to comparative anatomy and evolution. In this direction he continued working, but constantly widened his mental horizon. The growth of his power was well shown by his monograph of elasmobranch fishes, and by his comparative embryology, a great monument to his ability. Balfour's original investigations form the first volume of his works. The "Comparative Embryology" is reprinted as volumes II and III. The fourth volume includes the plates only. The examination of Balfour's contributions to science renders his loss keenly felt. To England he was important, for his charming personality greatly enhanced the influence, which belonged to his abilities. He was one of the most valued and beloved officers of the University at Cambridge. The sad accident on the Aiguille Blanche de Peuteret, in July, 1882, robbed England of her ablest embryologist, a man to whom Darwin wrote, after receiving the second volume of his embryology, "I am proud to receive a book from you, who, I know, will some day be the chief of English Biologists."

But to return from a digression which Balfour's name may well pardon. During the past year Oskar Hertwig has published the first part of his human embryology, which promises to sustain and amplify the author's reputation for comprehensive views and clearness of exposition, qualities which, combined with his gifts of observation and industry, have rendered him eminent. We have as yet only the chapters dealing with the history of the sexual products, maturation of the ovum, impregnation, and so forth; and those upon segmentation; the formation of the germinal layers and of the primitive tissues, and finally Chapters XI to XIII, on the fetal envelopes. Hertwig's views on the morphology of the nesoderm, which he groups under the title of the "beclotheorie" are here admirably presented, so that the discussion of them will be greatly facilitated. I may state in this connection that the "beclotheorie" must be very greatly modified. The chapter on the human envelopes and placenta is thoroughly unsatisfactory, since it is far from offering an adequate synopsis of our present knowledge. Save for these and some minor criticisms the treatise deserves unusual praise, and is, I think, fairly to be called indispensable for every student of embryology.

Wood's "Reference Handbook" contains numerous embryological and histological articles. Although many of the former were written by the present reporter, he ventures to refer to them here, as there has been nothing else so extensive published in English on human embryology since the ninth edition of "Quain's Anatomy," in 1882, and during these five years immense progress has been made in this department of science.

Stöhr's "Lehrbuch der Histologie," is capital; for the use of physicians and medical students it is not only the best, but also the only thoroughly excellent manual, I know. The illustrations are admirable, well engraved, faithful to the actual appearances of the specimens, drawn by the ordinary magnifications of the microscope, and nearly all taken from the human subject. The text is singularly concise, clear and instructive, and exhibits familiarity with the most

recent investigations. With each figure are given categorical but sufficient directions for obtaining a duplicate specimen. In short, this little work has been prepared with great pains; it is unusually meritorious, and I take pleasure in giving it my hearty commendation:

#### RIPENING OF THE OVUM.

Within a few years we have gained much knowledge concerning the process of fertilization of the ovum. We may now look forward with considerable confidence to some real comprehension before long of the nature and essence of sexual reproduction. An important contribution has been made by Dr. O. Schultze, the talented son of that Max Schultze, whom every one places as the foremost microscopist of the world. Dr. Schultze has investigated the process of maturation of the ovum in amphibia.<sup>1</sup> It has long been known that in most ova two small bodies, called the polar globules are extruded from the surface of the yolk; the globules consist each of a portion of the nucleus of the egg, surrounded by a little of the yolk. Their general occurrence has led to the hypothesis that their extrusion is essential for the maturation of the ovum; but the hypothesis was rendered doubtful by the failure to find the globules in several classes of animals. Thus among vertebrates they had been found in fishes and mammals, but not in amphibia, reptiles or birds. O. Hertwig<sup>2</sup> hunted for polar globules in frog's eggs unsuccessfully. Schultze has, thanks to better methods and skilful observation, been more fortunate, and not only discovered the polar globules, but also observed other changes in the ripening egg-cell, which must be considered significant. Accepting his memoir as our guide, we may present the following account of the development of the amphibian egg.

The egg-cell enlarges and becomes surrounded by a follicular epithelium, and a thin membrane lying directly against the yolk. This membrane has been usually designated as the zona radiata. The nucleus steadily enlarges; in young ova it is central in position; spherical with a distinct membrane, an intranuclear reticulum, a number of chromatine granules (nucleoli) an abundant nuclear sap, etc. At one side appears a more or less nearly spherical accumulation of dark granules, constituting the mass known as the yolk nucleus, which was discovered by H. Cramer, many years ago.<sup>3</sup> The chromatine granules now arrange themselves around the periphery of the nucleus. The yolk nucleus breaks down and the granules composing it spread themselves out around the nucleus in a spherical layer, which lies about half way between the nucleus and the zona. The portion of the yolk between this layer and the nucleus appears much lighter than the yolk outside the layer. The ovum grows constantly, and the nucleus becomes enormous; the reticulum in it disappears and only the chromatine and the nuclear sap can be distinguished. The surface of the nucleus becomes quite irregular. After a time the division of the yolk into two zones is lost. The chromatine granules partly break up into small ones and before the ovum reaches its full size the granules acquire a characteristic and important distribution within the nucleus. There are still large granules around the periphery; and a cluster of them in

the centre, the large granules of the cluster form a shell around the kernel of small granules. The nucleus approaches the surface of the ovum; the granules of the little kernel in the centre of the nucleus unite into irregular threads; the membrane of the nucleus disappears, and the sap of the nucleus and most of the chromatine mingles with the yolk, but the tangle of threads remains and converts itself into a true spindle, but one of tiny size. Now, it has become well known by the researches of the past ten years, that these spindle figures are phases in the so-called indirect division of nuclei, and that nuclear spindles lying close to the surface of the ovum answers to one of the first stages in the development of the polar globules. In fact, there is here a polar globule of very small size produced. It is known that in the midst of the dark area of the freshly-laid ovum of the frog and other Anura, there appears a lighter spot, the cicatrula of Prevost and Dumas, the Keimpunkt of von Baer,<sup>4</sup> and named by Max Schultze<sup>5</sup> the *fovea germinativa*. This spot may occupy as much as a sixth of the whole surface of the ovum, but in some forms is much smaller; for example, *Bufo vulgaris*. In the midst of this white spot is a still purer white dot, in which again can be seen at least in axolotl eggs a still smaller black point, which was noticed and figured by van Bambeke in 1870, in his article "Sur les trous vitellins," etc.<sup>6</sup> This black point indicates the position of the nuclear spindle, it being due to a small gathering of pigment granules just about the spindle.

At first, the spindle has the peculiarity of lying with its long axis parallel with the surface of the ovum, but during the division of the spindle and the actual extrusion of the globule, the long axis places itself in a radial position. Subsequently, a second spindle is formed out of the part of the first left in the ovum, and a second polar globule is produced. The maturation of the ovum in amphibia, therefore, agrees perfectly with the maturation as it occurs in other classes of animals, at least, in all essential points. There is, in my mind, little doubt that polar globules of like history will be found in the eggs of reptiles and birds, when properly searched for. The significance of the polar globules for the theory of sex, I have pointed out on several occasions. For this reason, Schultze's discovery of the polar globules in a class of animals in which they had not been found before, is particularly important.

In the amphibian ovum, the history of the nucleus shows very clearly that a part of the nucleus only is concerned in the formation of the spindle, and that another part, in these animals, the larger part of the nucleus, mingles with substance of the yolk after the disappearance of the nuclear membrane. Schultze very properly directs attention to this curious phenomenon, which has hitherto attracted little notice, and adds the plausible suggestion that the mingling of the two parts may have a causal relation to the conversion of the indifferent egg-cell into the female ovum. The phenomenon is probably a constant one, but in other ova is less conspicuous than in those of the amphibia, because much less of the nucleus is employed in these animals to form the spindle than in any other known case.

When the first polar globule is formed the yolk begins to contract, and a little perivitelline fluid appears

<sup>1</sup> O. Schultze, Untersuchungen ueber die Reifung und Befruchtung des Amphibien-oeis. Zeitschrift für wissenschaftliche Zoologie, xiv, 177-226, Taf. xi-xiii.

<sup>2</sup> Morphologisches Jahrbuch, Bd. iii, p. 41.

<sup>3</sup> Müller's Arch., 1848.

<sup>4</sup> Müller's Arch., 1854, 485.

<sup>5</sup> Observations nouvelles de ovorum ranarum segmentatione, p. 14.

<sup>6</sup> Bull. Acad. Belg., xxx, Fig. 4.

around the yolk. After the formation of the second globule, the amount considerably increases; most of the fluid accumulates on top of the yolk, within the membrane of the so-called *zona*; the yolk under the fluid is flattened. This space above the yolk was called the "respiratory chamber" by Newport.<sup>7</sup>

In the arthropods, also, polar globules, which had long been sought for in vain, have now been found, both among crustacea and insects. As regards the former class, we have the observations of Grobben on *Moina*, and of Weismann<sup>8</sup> on the parthenogenetic ova of various Daphnida. Still more valuable are the observations of Blochmann<sup>9</sup> on various insects. This author found the eggs of *aphis aceris*, the plant-louse of the maple, a favorable object. The ova are short cylinders; the nucleus lies in the middle of the long side. In the winter eggs (which develop only when impregnated), after they have been laid, the nucleus changes into a nuclear spindle, which divides, after which one part, accompanied by a small amount of hyaline plasma, leaves the egg, so that a first polar globule is formed in the normal manner. The spindle-half left in the egg divides again, thus producing a second globule. In the summer eggs, which develop parthenogenetically, that is, without impregnation, there is a single globule, just as in the parthenogenetic ova of the Daphnida, studied by Weismann. Hence it is probable, as Blochmann points out, that since less matter is expelled in one case than in the other, the separation of the polar globules is of essential physiological importance as a preparation for fertilization.

Blochmann's observations greatly strengthen the hypothesis of parthenogenesis and sex which I published many years ago. According to this hypothesis, the cells include both male and female parts, and to make a female sexual product, the male part must be taken away; it was assumed that the polar globules represent this male portion. I further suggested<sup>10</sup> that, in parthenogenetic ova, the male element is not gotten rid of. Blochmann's observations indicate that it is gotten rid of, but only partially. In *musca*, the common fly, there are also two polar globules formed, of which the first subdivides, making three, as is the case in many ova; but there occurs here the remarkable peculiarity that the globules are not expelled, but melt together into a granular mass, which lies in a vacuolar space at the surface of the egg, and gradually breaks up. Blochmann<sup>11</sup> had previously found evidence of polar globules in ants, wasps, and a species of butterfly (*Pieris Brassicae*), so that these bodies have been found in four orders of insects.

In conclusion, we may put forward with great confidence the generalization that the formation of two polar globules is an indispensable part, and probably the essential part of the process of the maturation of the ovum throughout the animal kingdom from the sponges up.

#### ORIGIN OF THE WOLFFIAN DUCT.

As is well known, the duct, which persists in the adult male as the spermaduct, and in the adult female as a rudimentary structure, is a well-developed longitudinal tube on the dorsal wall of the abdomen of the young embryo, and serves as the excretory duct of the

primitive kidneys, or Wolffian bodies. Hensen, in his paper on the development of the guinea-pig and rabbit,<sup>12</sup> was the first to describe the origin of the duct from the ectoderm of the embryo. Graf Spee, in 1884, repeated and confirmed Hensen's observations, and added some admirable illustrations,<sup>13</sup> which recalled attention to the subject. Two years later, a second confirmation was given by Flemming, who investigated the rabbit.<sup>14</sup> Since then, the same fact has been found true of the thorn-back ray (*Raja clavata*) by J. W. van Wijhe, and in January of this year, Perenyi published a note in the *Zoologischen Anzeiger* to maintain the same mode of origin for the Wolffian duct in frogs and lizards.

We may, therefore, conclude that the canal arises in this manner in all vertebrates. The theoretical bearings of this are very noteworthy. It appears that the primitive excretory apparatus was originally a series of coiled, transverse tubules, opening at one end into the abdomen, at the other into the Wolffian duct. An admirable treatment of the history of the excretory organs of vertebrates, by Balfour, may be found in the second volume of his "Comparative Embryology." Now these tubes bear an obvious likeness to excretory organs of annelids, termed the segmental organs. The resemblance has been generally considered an argument in favor of assuming a common ancestry for worms and vertebrates, or, more strictly speaking, in favor of homologizing the excretory organs of one class with those of the other. There was, however, one serious difficulty in the way of this conclusion, to wit, the tubules in annelids open upon the exterior surface of the body, but those in vertebrates open upon the interior into a longitudinal canal. Formerly, there was no way of explaining the divergence; but Hensen's observation, extended as it has been, reveals a mode of origin of the Wolffian duct, which proves that it really belongs to the exterior, being derived from the ectoderm. Hence organs which open into the Wolffian duct open, morphologically speaking, upon the exterior of the body. Therefore, there is no longer any obstacle to prevent our maintaining a direct homology between the tubules of the Wolffian body and the segmental organs of worms.

Shortly after I had finished the manuscript of the preceding paragraph, I received through the kindness of the author, Prof. A. C. Haddon, a reprint of a paper read to the Royal Dublin Society on February 16th last, in which the theoretical meaning of the ectodermal origin of the duct is discussed excellently. Haddon says in reference to the hypothetical ancestors of vertebrates, "we have only to assume that the lateral area along which they (the transverse or segmental tubules) opened, was grooved, and extended as far as the anus. From the analogy of the neutral groove, there is no great difficulty in further supposing that the groove was converted into a canal, which, becoming separated from the overlying epiblast, might sink into deeper-lying parts of the body;" (p. 469).

#### PLACENTA AND UTERUS.

Two large atlases with plates of sections through the body of pregnant women, have appeared during the year. Both atlases are based upon frozen sections. One, issued by Prof. Waldeyer, gives the relations as found in a normal pregnancy assigned to the eighth

<sup>7</sup> Phil. Trans., 1851, p. 185.

<sup>8</sup> Zoolog. Anzeiger, 1886, No. 233.

<sup>9</sup> Blochmann. Ueber die Richtungskörper bei Insekteniern. Biolog. Centralblatt, VI., p. 109.

<sup>10</sup> Proceedings Boston Soc. Nat. Hist., XIX, p. 171.

<sup>11</sup> Biolog. Centralblatt, VI., 554-559.

<sup>12</sup> Zeitschr. f. Anat. u. Entwicklungsges., 1875.

<sup>13</sup> His u. Braune's Arch.

<sup>14</sup> His and Braune's Arch., 1886.

month, the other, edited by Dr. Karl Schroeder, illustrates the dispositions in labor during "*Eröffnungsperiode*." Both works include a valuable text, Schroeder's, including several articles by Hofmeier, Ruge and Stratz. Hofmeier's article is of little value, at least in proportion to its length, but Ruge's is meritorious, and contains better accounts of many features of the pregnant uterus than can be had elsewhere. I have pointed out<sup>12</sup> that a part of Ruge's views cannot be sustained because he was unaware that the layer of fetal epithelium covering the chorion and chorionic villi persists intact through the entire period of pregnancy, although it undergoes remarkable alterations, becomes irregularly thickened, and in the thickened parts undergoes a hyaline degeneration, which produces the canalized fibrine, first accurately described as a normal placental structure by Langhans. A knowledge of the singular history of the chorionic epithelium is important alike for the comprehension of the normal structure of the placenta, and for the elucidation of the pathological changes to which this organ is subject.

Fleischman enters the lists as a defendant of the old view that the chorionic villi lodge in the uterine glands. He maintains that in the fox and cat the glands enlarge and develop irregular diverticula, the septa between them become very small; the villi grow into the glands; the uterine epithelium disappears, first on the surface and there entirely, secondly, in the glands, partially in the cat, completely in the fox. The chorionic epithelium is preserved in both species. This is a return to Bischoff's opinion. Turner asserted that the crypts into which the villi grew, were new formations. Ercolani denied that the villi grew into either glands or crypts.

Colucci<sup>13</sup> in reply to an article by Laulanie,<sup>14</sup> defends Ercolani's conclusion that the maternal portion of the placenta preserves a glandular character in all cases, and furnishes a secretion to nourish the fetus. A summary of Ercolani's views on the placenta is given by Romiti, in his *Embriogenia umana e comparata* and also in Paladino's *Fisiologia*. It seems to me now, however, that Ercolani was in error in considering that his generalization can be applied to all placenta. It does not appear to hold for the human placenta, at least during the latter part of pregnancy. Concerning the precise structure of the human placenta, during the first months of gestation, we possess no satisfactory observations.

The conflicting views have been carefully considered by Tafani in a long memoir<sup>15</sup> in which he reports many new observations. I regret very much that the work has been at hand too short a time for me to have completed the perusal of it in time for this report.

The most important paper on the human placenta, which has appeared since Langhans' memoir<sup>16</sup> in 1877, is in my estimation the very brief article of Prof. Waldeyer, which is crammed with valuable information. By most scrupulously careful injections, he has ascertained that the intervillous spaces are actually channels of the maternal circulation. The veins and arteries as they enter the decidua seratina lose completely all their coats except the endothelial lining. They pass up with this modification of structure through the decidua, giving off very few branches, and finally

open directly upon the decidua surface into the intervillous spaces. Waldeyer leaves it in doubt whether there is any maternal tissue (that is, endothelium) covering the fetal epithelium of the villi, but is inclined to think such a layer is present. I have looked for it again in my own preparations, but cannot discover any trace of it. On the other hand, I have been so fortunate as to obtain some sections which confirm Waldeyer's description of the opening and histological peculiarity of the decidua veins. The original paper is from the *Sitzungsberichte* of the Berlin Academy for 1887.

## Reports of Societies.

### PHILADELPHIA COUNTY MEDICAL SOCIETY.

STATED meeting, May 11, 1887, the Vice-President, E. T. BRUEN, M.D., in the chair.

DR. THOMAS B. MCBRIDE described and exhibited A NEW APPARATUS FOR MAINTAINING THE LITHOTOMY POSITION.

I desire to present to the Society, this evening, an apparatus I have designed for the purpose of supporting the limbs and maintaining the lithotomy position.



It consists of a piece of hard, elastic wood, preferably ash or hickory,  $\frac{3}{8}$  of an inch thick, 1 inch wide, 36 inches long, bent at each end in a semicircle of 6 inches diameter, or a semicircumference of 10½ inches, thus leaving a shaft of 15 inches between the semicircles, and making the finished length of the instrument 27 inches (6 + 15 + 6).

To the shaft, 2 inches from each end, a buckle is immovably fastened by means of leather.

A band of webbing, finished at each extremity with a leather strap, the whole 50 inches long, completes the device.

In using the apparatus, the thighs are flexed on the abdomen and put in the semicircles, the band is placed around the neck and fastened to the buckles.

The advantages are apparent. Its cheapness places

<sup>12</sup> Anatomischer Anzeiger, Vol. II, No. 1.

<sup>13</sup> Mem. Acad. Bologna Ser. IV, Vol. vii.

<sup>14</sup> Revue Vet. Xme Année, No. 3, Toulouse, 1883.

<sup>15</sup> Pelizzari's Archivio della Scuola d'anat-patol. V. 53.

<sup>16</sup> His and Braune Archiv, 1877. 188-267.

it within the reach of every one. The thoroughness with which it does its work, keeping the patient immovably in the lithotomy position, and maintaining the same relative position of the parts; the fact that it does not interfere with the circulation; the strength, lightness, and remarkable simplicity will, I think, render it a valuable acquisition to the surgeon and gynecologist.

#### AMERICAN SURGICAL ASSOCIATION.<sup>1</sup>

ANNUAL SESSION OF 1887.

REPORT OF A CASE OF VENTRAL HERNIA SUCCESSFULLY TREATED BY OPERATION, WITH A SUGGESTION AS TO THE METHOD OF OPERATING,

by DR. J. EDWIN MICHAL, of Baltimore.

Mrs. F., stout woman, forty-five years of age, had ventral hernia, resulting from a fall several years previously. Great annoyance was experienced in the use of pads and bandages. The longitudinal opening was about two and one-half inches in length. The patient insisted on operation. March 15, 1886, the operation was performed. Antiseptic precautions were adopted. Free incision was made in the median line. The sac was carefully separated from surrounding tissues; it was then emptied of its contents and opened. The sac was cut off close to the margin of the ring. Strong silver-wire sutures were passed a little less than one-half an inch apart, having a hold of one-half to three-fourths inch. The sutures included the peritoneal, muscular and tendinous structure only. These were twisted and perforated shot employed. The wire was then cut off close. The skin and subcutaneous tissues were secured with cat-gut sutures. Half-dozen cat-gut strands were placed in the wound for drainage. The wound united rapidly. In October examination of the wound showed it to be firmly united. The sutures could be felt but gave no inconvenience. In his remarks the speaker stated that his object in using the wire sutures in this manner was the expectation that they would be surrounded by a mass of cicatricial tissue making a permanent closure of the ring. As far as he was aware he had used the wire for this purpose without precedent. A paper on

#### PROGNOSIS IN SARCOMATA OF THE BREAST,

by S. W. GROSS, of Philadelphia, was read by title, and referred to the publication committee.

#### THE MEDICO-LEGAL ASPECT OF CRANIAL AND THORACIC WOUNDS [SUICIDAL].

by DR. D. HAYS AGNEW, of Philadelphia.

The study of this subject had been suggested to him by a recent case occurring in Newport, R. I. The question was as to the possibility of a cranial wound and a wound of the heart being self-inflicted. A colored man was found one morning lying dead under the breakfast table. He had food in his mouth and had a wound of the head and of the heart. The coroner's jury rendered a verdict of suicide and the body was buried. Subsequently it was disinterred and the verdict reconsidered, and the conclusion reached that the man had been murdered. Suspicion then fell upon the son-in-law of the man, who had up to this time borne a good reputation. At the trial five medical experts were called for the prosecution, and their

general testimony was that these wounds were incompatible with the idea of suicide. Subsequently the prisoner confessed that he had committed the murder. As this was an important question the author had investigated it. There are two conditions resulting from injury of the head which would prevent the infliction of a second injury. These are unconsciousness and paralysis of one or both upper extremities. Injury to the brain is not necessarily followed by loss of consciousness or by paralysis. Many cases were cited to show the truth of this statement. Numerous instances of heart injury were given in which after the reception of the accident the individual was able to perform many acts. Cases were also given in which persons in attempting suicide had produced injuries of the head and of the heart. As the result of his study, the speaker concluded that it is possible for a ball to enter the brain without destroying consciousness although for a moment it may cause mental confusion, and that a suicide may shoot himself in the head and after a moment shoot himself in the heart.

In the discussion which followed, numerous cases were related in which the heart or brain had been injured and the individual had lived for some time and had not been unconscious. Cases were also given in which both a wound of the heart and of the brain had undoubtedly been produced by the individual himself.

Adjourned until Friday morning.

FRIDAY, MAY 13. MORNING SESSION.

#### EXECUTIVE SESSION.

Officers for the ensuing year: *President*, Dr. D. Hayes Agnew, of Philadelphia. *Vice-President*, Dr. N. Senn, of Milwaukee, and Dr. F. S. Dennis, of New York. *Secretary*, Dr. Jacob R. Weist, of Richmond, Indiana. *Treasurer*, Dr. Phineas S. Conner, of Cincinnati, Ohio. *Recorder*, Dr. J. Ewing Mears, of Philadelphia, Pa. *Council*, Drs. J. S. Billings, L. McLane Tiffany, Moses Gunn, and R. A. Kinloch. *Chairman of Committee of Arrangements*, Dr. John S. Billings, of Washington. The following were elected to membership: Charles B. Porter, M.D., of Boston; William M. Masten, M.D., of Mobile, Ala.; and Maurice H. Richardson, M.D., of Boston, Mass.

The next meeting to be held at the call of the President.

#### SURGICAL DISEASES OF THE WHITE AND COLORED RACES COMPARED,

by L. McLANE TIFFANY, of Baltimore.

The paper was based on the record of 4,930 cases, studied during a period of thirty-four months in a general hospital. The percentages of the affections were given in detail. The paper was simply intended as a preliminary communication, and as a result of a study of the figures obtained, the following suggestions were made:

(1) Surgical affections follow different courses in the white and colored races, under identical hygienic surroundings.

(2) Surgical injuries and operations are better borne by negroes than by whites.

(3) Surgical diseases involving the lymphatic system, especially tubercular, are more fatal and more rapidly fatal in negroes than in whites.

(4) Congenital deformities are rarer in negroes than in whites.

<sup>1</sup> Continued from page 509.

(5) The surgical differences observed in whites and negroes are due to racial peculiarities.

## DISCUSSION.

DR. CHRISTOPHER JOHNSTON, of Baltimore. My experience indicates that there are individual as well as racial peculiarities. These are most striking in proportion to the pureness of blood. I regard the negro as a good subject for surgical operation. I have never seen carbuncle in negro. I do not recall a cleft palate or hare lip in the darker individuals. Epithelioma is infrequent. Fibromas are quite frequent. I would emphasize the proneness to the development of keloid in the negro. I have found that in the negro, the skin and white tissues are more frequently the seat of certain disease than the same tissues in the white.

DR. P. H. RICHARDSON, of New Orleans, presented a detailed report of the statistics of the Charity Hospital, bearing upon this point. He had found congenital deformities rarely in the negro.

DR. E. H. GREGORY, of St. Louis. I have seen keloid much more frequently in a negro than white, and have never seen multiple keloid in the white race. The ability of negroes to stand operations may be due to his indifference, and that he does not comprehend the magnitude of the operation. The results obtained at the City Hospital of St. Louis, show that the negroes bear operations about as well as whites. It seems to be the generally accepted idea that negroes are more subject to tubercular affections.

DR. W. T. BRIGGS, of Nashville, Tenn. My experience confirms the suggestions of Dr. Tiffany. Negroes are very prone to suppuration. It is extremely difficult to prevent suppuration even under strict antiseptic precautions. Negroes bear operations better than whites, but they do not get well so rapidly. While malformations are less frequent, still they do occur. The rarity of hydrocele in the hospital records may be explained by the fact that negroes do not usually seek advice until the tumor has become so large as to give rise to much inconvenience. Fibroids and fibro-cystoma are very common in the negro. Ovarian tumor is rare, although I have had one case in which the tumor weighed one hundred pounds.

DR. D. W. YANDELL, of Louisville, Ky. I agree with Dr. Briggs in his remarks. I have seen many cases of keloid in the negro, but have not seen a case in the white subject. I have seen but two cases of hydrocele in the negro. I never saw hare-lip in the negro. I have seen but two ovarian tumors in the negro. I never saw epithelioma of the face of a negro. Epilepsy is exceedingly rare in the negro. I never saw a case of internal hemorrhoids in the negro. Tetanus is exceedingly common, especially in the black race. Stricture of urethra is exceedingly common among negroes.

DR. R. A. KINLOCK, of Charleston, S. C. In considering this subject I think we make a mistake in classing all negroes together. I think that in the pure negro suppuration is less likely to occur than in the white race. As a rule I think that the negro is not strumous. Mulattoes are, as a rule, strumous. The pure negro bears operation well, and recovers promptly.

DR. A. VANDER VEER, of Albany. During the past twenty years I have seen a good many negroes, United States prisoners sent to the Albany penitentiary. The vast majority of these die of tuberculosis

of some form. Many of them have soft chancre with suppurative buboes. Where there is true Hunterian chancre, there has been the characteristic bullet bubo seen in the white race. There are a greater number of perineal abscesses and sinuses than in the white. If operation is done there is less probability of urethral fever.

## AN EXPERIMENTAL STUDY OF THE EFFECTS OF PUNCTURE OF THE HEART IN CASES OF CHLOROFORM NARCOSIS,

by B. A. WATSON, M.D., of Jersey City, N.J. The investigation of this subject was suggested to him by the following occurrence: February 20, 1887, he had killed with chloroform a dog. The abdominal and thoracic cavities were opened, about four minutes after the heart had ceased to beat. The assistant seized the heart with his thumb and forefinger and the pulsations at once began, the contractions became full and regular, and continued three minutes. They were again stimulated by a second touch, action continuing two minutes. They were started a third time and continued to beat one-half minute. This observation suggested the possibility of arousing the heart into action even after entire cessation of its movements, by the introduction of a needle into the organ.

The results of sixty experiments on dogs were given in detail. The experiment consisted briefly in producing death by chloroform inhalation, and then withdrawing from one to three or four minutes an aspirating needle was introduced into the heart through the chest walls, the attempt being to reach the right ventricle. In the first fifty cases the chloroform was administered rapidly and air was excluded as far as was possible. In the last ten the chloroform was administered slowly and with a large proportion of air. The first forty animals had already suffered some severe traumatic injury, while the last twenty were perfectly healthy animals. The punctures made in these sixty experiments were as follows: right ventricle 38; left ventricle 6; right auricle 6; superior vena cava 3; inferior vena cava 2; apex of the heart 2; and not stated 1. The resuscitations were as follows: after puncture of the right ventricle nine; right auricle one. The first forty experiments gave only four recoveries, while the last twenty gave six. In only one of the sixty cases did the heart fail to respond to puncture, and in this instance the use of the needle was postponed for four minutes after the cessation of the heart's action and one minute after breathing had stopped.

Should the puncture be carried into one of the cavities of the heart in order that blood may be extracted? In chloroform narcosis the heart is found in diastole and the veins in the lungs are greatly distended with blood. It may, therefore, theoretically be assumed that blood may be advantageously drawn from the right side of the heart. The author was assured that this procedure was practical and advantageous.

The only deaths during these experiments which could be attributed directly to the puncture were those in which the needle penetrated the vena cava. In these cases there was profuse hemorrhage into the thoracic cavity. Punctures made into the auricle are sometimes followed by a flow of blood into the pericardium. Punctures into the ventricle are not attended with any hemorrhage from the interior of the organ, but there may be a few drops of blood from a wounded cardiac vein.

The following conclusions were reached:

*First.* Puncture of the heart, especially of the right ventricle, stimulates muscular contractions, and may be advantageously applied in the treatment of chloroform narcosis.

*Secondly.* The best results are obtained when abstraction of blood from the cavity of the ventricle is combined with the stimulating effects produced by the entrance of aspirator needle.

*Thirdly.* The puncture of the right ventricle is a safer and more efficient operative procedure than the puncture of the right auricle.

#### DISCUSSION.

DR. N. P. DANDRIDGE, of Cincinnati. We should, I think, be careful how we apply the deductions from these experiments to the human being. The conditions under which the experiments were made were different from those under which accidents usually occur in human beings. In the latter case the accident usually occurs after only a small quantity has been taken and often early in its administration. The effect is probably due to a reflex effect upon the inhibitory action of the heart. In the experiments reported puncture was resorted to within one or two minutes after the cessation of the heart's action. In the accidents with chloroform it is not uncommon to have recovery after apparent cessation of the heart's action for a comparatively long period. A large number of experiments are required to test the relative value of this procedure as compared with artificial respiration, the use of nitrite of amyl and particularly with the subcutaneous injection of atropia. This latter can always be done quickly, and has a stimulating effect upon the cardiac and respiratory centres.

DR. JOHN B. ROBERTS, of Philadelphia. The speaker, while he has shown the comparative innocuousness of puncture of the heart with a small needle has also shown the danger of using chloroform as an anæsthetic in any cases, possibly cases of parturition excepted. I doubt whether he could have killed the same number of dogs with ether. His experiments have shown that it is more dangerous to puncture the auricle than the ventricle, which would naturally be suggested by the fact that the auricle has a much thinner wall. Dr. Westbrook, who performed cardiotomy for conditions other than chloroform narcosis, suggested puncture of the right auricle to the right of the sternum. I suggested in 1883, that it would be better to puncture the right ventricle to the left of the sternum.

DR. L. McLANE TIFFANY, of Baltimore. There are two points in which these experiments are open to criticism. It is well known that on dogs, chloroform acts in a very uncertain manner. It is not safe to make deductions from the dog to the human being, under these circumstances. In the second place, I think it is not well to make experiments in the laboratory, and then advise others to try them on the human subject. The experimenter should test the experiments on the human subject, before he recommends the procedure to others.

DR. R. A. KINLOCH, of Charleston. In a recent case of chloroform narcosis in my practice, heart puncture was tried, but without the slightest benefit.

DR. T. J. DUNOTT, of Harrisburg. I know of one case in which the heart was twice punctured with an aspirator needle, and blood drawn from the cavity of

the heart. It was a case of dilatation of the heart with general dropsy, etc. The operation was performed by a homœopathic practitioner under the idea that he was dealing with a case of dropsy of the pericardium. A large quantity of blood was removed, and for a time there was improvement. The symptoms again returned and the operation was repeated, with a fatal result.

DR. B. A. WATSON, of Jersey City. Reference to the details of these experiments will show that in some the heart was excited to action fully three minutes after it has ceased. There are two reasons for selecting the right ventricle in place of the right auricle. In the first place, its walls are thicker, and the risk of hæmorrhage is less. In the second place, there is much more muscular substance in the wall of the ventricle than in the auricle.

With reference to the action of chloroform on the dog, I am well aware of the uncertainty of its action, but this is all against the dog. Where I have attempted to continue the anæsthetic action of chloroform on dogs for two hours, I lost one-half of the animals.

The committee to which was referred the suggestions contained in the President's address, reported that in view of the satisfactory manner in which the work of the present meeting had been prepared, it saw no reason for a change, and did not recommend the appointment of a business committee. It recommended the adoption of the second suggestion with reference to the length of papers. With reference to the abrogation of Article 9 of the Constitution, the committee was in accord with the president, but as this article had been introduced at the express desire of the first President of the Association, it was recommended that it be allowed to remain. The committee recommended the adoption of the suggestion that applications for membership lay over for one year.

#### FRIDAY.—AFTERNOON SESSION.

#### HYPERTROPHY OF THE TONGUE, OTHERWISE KNOWN AS LINGUA VITULI, LINGUA PROFUNDULA, AND MACROGLOSSIA,

by T. J. DUNOTT, M.D., of Harrisburg.

This affection of the tongue, although rare, is mentioned by nearly all surgeons of large experience. The case described by the speaker was that of a girl, twelve years of age, admitted to the Harrisburg Hospital, January 6, 1886. The tongue protruded from the mouth a distance of three and five-eighths inches. The lips were greatly distended, and the angles of the mouth not far removed from the external opening of the auditory canal. The greatest width of the tongue was four and three-quarters inches, and the greatest circumference nine and three-quarters inches. The prolapse of the tongue was only of two months' duration, and had begun without apparent cause. The measurements taken one week after admission showed a decided increase in the size of the tongue. The tongue was removed February 19th. After providing against hæmorrhage, the organ was removed with scalpel and scissors, the section being so made as to secure a conical stump. All the dense fibroid mass was taken away, the weight of the removed portion being over ten ounces. By January 31st, the stump was easily healed. There was no difficulty in keeping the mouth closed. When heard from, March 28d, she could eat and drink without difficulty, and was

gaining flesh rapidly. The paper was concluded with an account of the various operations which had been practised for the removal of the tongue.

## DISCUSSION.

DR. L. McLANE TIFFANY, of Baltimore. The history of the case just given would well apply to a case which I have recently seen. A negro girl, five years of age, had suffered with hypertrophy of the tongue, dating from birth. Ever since the first few months of life, the child had been unable to cover the tongue with its lips. The tongue was removed with the Paquelin cautery. Within a week the patient was eating potatoes and meat, and left the hospital ten days after operation. At this time there was a healthy granulating surface.

## CASES OF VAGINAL HYSTERECTOMY.

by J. FORD THOMPSON, M.D., of Washington.

CASE I. Mrs. A. E., aged forty-five years, white, was seen in April, 1885, suffering with malignant disease of the uterus. There was great destruction of the cervix, the ulceration extending above the internal os. On consultation, it was decided to avoid hysterectomy if possible, but to limit the operation to amputation of the cervix with scraping, etc. During the operation, the peritoneal cavity was opened. It was then decided to extirpate the uterus. The womb was separated from the bladder in front. A ligature was then placed around each broad ligament and tied. The uterus was then split in two. Each half was then brought down the broad ligaments, tied above the temporary ligatures, and the uterus removed. After thorough cleansing, the vagina was lightly packed with iodoform gauze. At the end of the operation the patient was very weak, and notwithstanding all efforts died in the course of twenty-four hours.

CASE II. Mrs. H., white, aged fifty-five years. Came under observation with cancer of the cervix in January, 1887. The posterior lip of the cervix was almost entirely destroyed, and the disease had encroached upon the posterior cul-de-sac. The cervical canal was involved, at least as high as the internal os. The operation was performed February 28, 1887, antiseptic precautions being adopted throughout. The dissection was begun at the posterior part and carried around the cervix. A silk ligature was passed with a long curved needle through the lateral vaginal vault of either side, and tied. The inclosed portion was then cut from the uterus. These ligatures presumably enclosed the uterine arteries and the lower part of the broad ligament. The uterus was then separated from the bladder in front, and a loop of silk was attached to the peritoneum. The posterior cul-de-sac was treated in the same way. The uterus was then tilted through the opening, and the broad ligaments transfixed and tied. There was no loss of blood. The peritoneal flaps were then brought together with two cat-gut sutures and a drainage-tube introduced into each angle of the wound. The vagina was packed with iodoform gauze. The patient recovered without any unpleasant symptoms.

Reference was then made to the history of the operation and the various methods of performing it were described.

## DISCUSSION.

DR. T. R. VARICK, of Jersey City. Whether such operations as this are likely to mitigate suffering

or prolong life beyond the average duration of the disease, if left to take its course without interference, is a question to be yet determined. It seems to me that any operation or method of treatment whose record does not show a prolongation of life beyond the utmost limit of the duration of the disease, if left to itself, is useless and should be avoided.

DR. T. F. PREWITT. I thoroughly agree with the author that extirpation of the uterus is a justifiable operation, and I do not know but that I am prepared to go further and say that on the earliest appearances of epithelioma of the cervix, the whole organ should be extirpated. I believe that ultimately this will be the course adopted.

DR. E. A. GREGORY, of St. Louis. It is one of the rules of old surgery to save every part possible, and I should no more think of removing the entire uterus for epithelioma of the cervix, than I should think of removing the whole lip for limited epithelioma of that part. I think that the surgery of the lips and the surgery of the jaws is applicable to the uterus. I am not willing to sit here and have the old ideas of surgery assailed without some show of resistance.

DR. R. A. KINLOCH, of Charleston. Another of the rules of old surgery was that in malignant disease, we should cut far and wide. The older surgeons, as well as the modern, recognized the fact that malignant disease often spreads too rapidly for us. Here we have an organ suspended in the pelvis and easily isolated. Now, if statistics show that by cutting far and wide without jeopardizing life too much, we can cut short the disease, we are carrying out the rules of old surgery when we do so.

## ANEURISM OF THE LEFT SUBCLAVIAN ARTERY FOR THE CURE OF WHICH THREE METHODS OF TREATMENT WERE EMPLOYED. DEATH.

by T. G. RICHARDSON, M.D. of New Orleans.

The patient, a healthy muscular Irish laborer, came under observation October 19, 1885. Aneurism of the left subclavian artery was diagnosed. The patient had suffered with syphilis, and constitutional measures were first tried. Iodide of potassium in fifteen or twenty grain doses was given three times a day. At the end of a week, no perceptible effect being observed, it was discontinued. Direct pressure was next tried, an elastic band with a compress over the vessel was secured to a belt around the waist. This was continued a month, and although it slightly retarded the growth of the swelling, it had no decided result. The third method, the introduction of surgical pins was next resorted to. Nineteen of these, measuring an inch-and-a-half in length, were passed through the anterior wall of the tumor at different places. The aneurism was still growing rapidly, and all the pins that could be reached were then withdrawn. Some of them had disappeared on account of the swelling which had taken place. An attempt was then made to ligate the axillary artery, but in spite of the utmost care, the lower portion of the aneurism was ruptured in the progress of the operation. The wound was at once packed with lint, dipped in Monsel's solution. The hemorrhage having been stopped, half a drachm of a five per cent. solution of perchloride of iron was injected into the centre of the tumor. At the end of twenty-four hours no coagulation having taken place, a second injection of twice the strength was employed.

The next morning there was an exhausting hæmorrhage ending fatally in a few hours.

**FEMORAL ANEURISM CURED BY ELEVATION AND FLEXION OF THE LIMB,**

by Dr. T. G. RICHARDSON, of New Orleans.

The patient, an Italian, aged fifty-five years, was admitted to the hospital December 11, 1886, with a large aneurism of the femoral artery four inches below the femoral arch. While the case was being studied, the limb was flexed at a right angle at the hip and knee, and suspended on a Smith's anterior splint. The next day the pulsation was greatly reduced and the patient was quite comfortable. The treatment was continued, and at the end of the third day the tumor was solid. The limb was kept in this position for ten days or two weeks. The patient was discharged cured, one week later. The speaker called attention to the fact that there was no direct pressure upon the tumor, and that the result was due entirely to flexion and suspension of the limb.

**WOUNDS THEIR ASEPTIC AND ANTISEPTIC TREATMENT**

by DAVID PRINCE, M.D., of Sacksonville, Ill.

After referring in general terms to the methods in use for the prevention of contamination of wounds, the speaker described an operating-room which he had devised, the object of which was to prevent the entrance of infecting principles. All the air entering this room is filtered through successive layers of cotton. The air is heated by means of gas-burners and to prevent drying of the wound. Steam is permitted to enter with the air.

**SPLENECTOMY,**

by JAMES McCANN, M.D., of Pittsburg.

The paper was the description of a case in which removal of the spleen had been practised, with recovery of the patient. A paper entitled

**THE STUDY OF THE METHODS OF OPERATION PRACTISED, AND OF THE RESULTS OBTAINED IN THE TREATMENT OF CLEFT OF THE HARD AND SOFT PALATES, ILLUSTRATED BY THE RECORD OF FIFTY CASES.**

by J. EWING MEARS, M.D., of Philadelphia, was read by title.

A vote of thanks was then extended to the Surgeon-General for the use of the room; to the Cosmos Club for courtesies extended, and to the officers of the Association for the efficient manner in which the proceedings had been conducted.

The Association then adjourned to meet at the call of the president.

—Mr. O'Brien, a Liverpool surgeon, says in a recent issue of the *British Medical Journal*, that for a few weeks he has had under his care a little boy suffering from an unusually severe attack of whooping-cough, and that the boy's mother informs him that for as much as a fortnight the family cat has had five or six distinct fits of coughing daily, similar in every respect to the boy's, and ending in an expectoration of frothy mucus. The cat is said to be tolerably bright and active between the paroxysms, but is not so lively as formerly, and is in considerably poorer condition.

**THE NEW YORK ACADEMY OF MEDICINE.**

STATED meeting, April 21, 1887.

**DISCUSSION ON THE PRACTICAL VALUE OF OUR PRESENT METHODS OF TREATING THE UPPER AIR-PASSAGES.**

This subject was presented for discussion by the Section on Laryngology, and the first paper was read by Dr. F. H. Bosworth. When the specialists in this department knew very little, he said, they made use of a great deal of machinery; but as they came to know more, the array of machinery had grown less and less imposing, until now all the apparatus that was really necessary, might be readily carried in the overcoat pocket. Notwithstanding the most ingenious devices for their employment, it was a fact, that no case of chronic laryngitis had ever yet been cured by topical applications. The views of laryngologists had greatly changed within the last few years, and they had long since outgrown the idea that chronic laryngitis must be of either tubercular or syphilitic origin. The truth was, that non-specific chronic laryngitis was merely secondary to affections of the parts above.

As to applications to the lower pharynx, they were of no service whatever, and this part of the anatomy did not even belong to the air-passages at all, but to the food-tract. The vault of the pharynx was the seat of certain morbid changes which had been supposed to constitute naso-pharyngeal catarrh. The excessive secretion which was fancied to be characteristic of the condition, however, was an absolute myth. There was, in fact, diminished secretion, (although the secretion was perverted, so that it became thick and inspissated to a degree that it was not removed by the ordinary efforts at expectoration), and the indication was, not for astringent applications to the pharynx, but for some means of treatment which would restore the nasal passages as far as possible to their normal condition. Topical treatment here, therefore, was no use, and in such conditions as hypertrophy of the pharyngeal tonsil, no local measure was of any service, except merely as a palliative. As to nasal catarrh, it was not a hyper-secretion to be cured by astringents. These had all been tried to the fullest extent, and found to be of no avail. The essential symptoms were due to conditions which interfered with the great function of exosmosis of serum, and douches and sprays had never yet cured inflammatory conditions of the upper air-passages, although such applications were undoubtedly of more or less use. The nasal douche had attracted a great deal of attention of late years, and he thought its dangers, as well as its benefits, had been vastly over-estimated. Inhalations had fallen into disuse, and the spray was now deservedly considered the most satisfactory means of local treatment. It was unquestionably of great assistance as a cleansing and palliative measure; but was nothing more than this.

As to any special value to be attached to any particular form of apparatus, there was none. Compressed air was supposed to possess superior advantages for the spray, and the moral effect of the various devices resorted to for employing agency was no doubt good; but with an instrument costing a dollar-and-a-half at retail, as perfect a spray could be produced as with the most elaborate machinery. Millard's atomizer, he thought, was the one which was most convenient and

serviceable. The curative treatment of affections of the upper air-passages, however, consisted in treatment of the nasal tract by the removal of obstructive lesions which gave rise to nasal stenosis; and this was to be carried out with the snare, saw, knife or cautery.

The object sought to be secured by the use of the cautery, was not destruction of tissue. In hypertrophic disease the process involved principally the connective tissue, and the essential feature of chronic rhinitis was a chronic hyperæmia of the bloodvessels, with increased nutrition of the part. The local effect of cocaine was to produce anemia, and, having reduced the existing turgescence with this agent, a mild caustic which would have very much the action of a film of collodion, should be applied. There was nothing so good for this purpose, in Dr. Bosworth's opinion, as chromic acid; a few crystals of which, laid upon the parts, destroyed the superficial layer of the membrane, converting it into a slough which adhered closely to the surface for three or four days; holding it down, as it were, and preventing a return of the turgescence. This simple method by chromic acid was greatly to be preferred to the galvano-cautery, enabling us to accomplish, as it did, all that could be effected with this complicated apparatus, in a manner much more satisfactory in every way. The subject of neoplasms, he said, did not properly come under the present topic of discussion. Acute catarrhal inflammation of the nasal passages was simply a symptom of chronic rhinitis, and as it could be readily eliminated by means of cocaine, did not require further consideration.

In speaking of our methods of examination, he said that the value of the laryngoscope, as generally employed, was greatly over-estimated, and that neither in Tobold's or Sass's instrument was there any optical principle involved. A small head-mirror, with a good light, answered every purpose perfectly well. Laryngologists had ceased to treat by means of machinery when they learned how to successfully treat their cases; and he quite agreed with the sentiment expressed by Dr. Daly at the Copenhagen International Medical Congress, that the sooner they ceased to be throat doctors and became throat surgeons, the sooner would they achieve success in their specialty.

Dr. A. H. SMITH while expressing his belief in the efficacy of topical application in many more or less acute conditions, said that in long established cases of what is known as catarrh, there were serious doubts in his mind as to the benefit of any local treatment that had as yet been devised. In one of the institutions in New York where such cases are treated, there were, during the year 1886, 1,773 patients suffering from chronic nasal catarrh, and in these 1,773 cases, 370 operations were performed, or in a little more than 27 per cent. of the number. About 73 per cent., therefore, were treated by topical means, exclusive of surgical procedures. Hence, it seemed that in nearly three-quarters of all such cases we had to depend on topical applications. But as it was notorious how rebellious to treatment other chronic affections of the mucous membrane, such as conjunctivitis, otorrhea and endo-metritis, were, it was fair to infer that in chronic rhinitis, where it was impossible to reach all the parts affected, as in the others, the results would not be any more satisfactory. Under the most favorable conditions, all we could do, he thought, was to assist the reparatory processes of nature.

It was a question, however, whether in chronic cases the *vis medicatrix nature* was not entirely obliterated. In many instances it really seemed that the natural tendency was to a still wider departure from the normal condition. It was a sheer assumption to suppose that local application would have the desired effect. Not only was a large amount of the nasal mucous membrane in positions inaccessible to local treatment by vapor sprays and powders, but the diseases located in this region were due to causes which had long been operative; and it was of little use to heal a burn while the hand was still in the fire. These remarks, he said, were not applicable to all troubles in the upper air-passages, but to certain chronic affections; and it was only just to ourselves and frank to the public that the professional sentiment in this matter should be made known. Personally, he had long ceased to expect, as he had long ceased to promise, a complete and permanent cure in such cases. As to acute exacerbations, however, they could be successfully treated with anodynes and astringents.

Dr. W. H. THOMPSON said that in his opinion the treatment of chronic disease of the upper air-passages should be directed by two principles. The first of these was the taking cognizance of the cutaneous nerves liable to be concerned in the trouble, and the second, local disinfection. While in some affections, as, for instance, pertussis, infectious germs were taken into the system from the air breathed; in others the origin seemed to be in a quite local chill of the cutaneous surface. The whole body might be exposed in the rain and yet the individual not be nearly so likely to take cold as if he got only his feet wet. In the same way a draught through the key-hole was very liable to give cold.

There were three laws of neuro-vascular irritation which should be taken into consideration in this connection: In the first place, organs in symmetrical pairs were so closely associated in their vaso-motor relations, that an influence affecting one was at once conveyed to the other also. Thus, Brown Squard had shown that the thermometer indicated a fall of fourteen degrees in one hand from the dipping of the other in ice-water, while, in the axilla, the temperature remained unaffected. The second law had reference to the association of the vaso-motor influences of various organs with the surface. Thus, a dash of ether-spray was often efficient in checking hæmoptysis, and the action of all derivatives and counter-irritants depended on this connection. The third law was concerned with the cerebro-spinal vaso-motor connections. The relations between the pelvic viscera and the feet were well understood, as shown, for instance, in the stoppage of the menstrual flow from getting the feet wet, and in the effect of bringing it on by dipping the feet in hot water. In males, the relation between the genito-urinary apparatus and the feet was especially marked. In the same way, there were associations between the feet and the circulation of the pharynx and larynx, and it had even been proposed that children affected with enlarged tonsils should be allowed to go with bare feet, in the hope that the condition might be thereby relieved. Still more intimate were the relations between the nape of the neck and the nasal cavities. Persons suffering from chronic nasal catarrh were often susceptible to influences which had no effect whatever upon others.

As regards the matter of treatment, there were very

few vaso-motor tonics or strengtheners, and there was nothing, in Dr. Thomson's opinion, which could compare with cold as a remedial agent. It was very useful to apply cold water to the nape of the neck on rising in the morning, especial care being taken that the hair should not become even dampened. Sponging of the throat was also excellent, and these cold applications should be kept up for a long period of time. The back of the neck and shoulders should also be well rubbed with olive oil. The second indication was to protect the cutaneous surface against exposure. As in rheumatism, woollen night-shirts and sheets were of great service. During the day-time, also, woollen garments should be worn, and a perforated buckskin shirt, with a comparatively thin woollen under-shirt, he regarded as far superior to any thick flannel. It should be left off only during the heat of summer. The same good results from the wearing of buckskin were met with in various other chronic diseases.

The second principle of treatment, as had been mentioned, was local disinfection. People were protected against the attacks of morbid bacteria only when the forces of life were maintained in a vigorous condition, and the mucous membrane of the air-passages was constantly exposed to atmospheric invaders. The most practical deduction from the matter was that, in chronic disease of this kind, we were first to strengthen cell and nerve nutrition, and, secondly, to use disinfectants by direct application. One reason why our methods of disinfection were at present so inefficient, was that it was impossible to keep up such measures for any length of time together. Such a permanent disinfectant, however, we had in the air of the ocean. It was undoubtedly true that a considerable number of cases were to be attributed to malformations, either natural or acquired; but in those which were not, it was important to know what agents ought to be used. In his opinion, the carbolic acid class, including all coal-tar derivatives, were best for the suppurative diseases. In necrotic cases, on the other hand, remedies of the chlorine group, including bromine, iodine, and sulphur, were indicated, and insufflations of bismuth and calomel had long been used.

Dr. H. H. CURTIS, having remarked that so-called chronic post-nasal catarrh, unaccompanied by stenosis, did not exist, went on to speak of the great value of chromic acid, which, for some time past, he had used, to the exclusion of all other escharotics. When this was applied to the turgescent or hypertrophied bodies, it not only had a most marked beneficial effect upon the parts immediately concerned, but also the vocal apparatus of the patient. Hence such applications were of special service to singers, actors, and others obliged to use the voice in public. This was a reflex effect, and there could be no doubt that there was a distinct correlation between the turbinated bodies and the larynx. In illustration of this point, Dr. Curtis related the case of a prominent operatic prima donna, who presented herself for treatment with a slightly congested condition of the vocal bands. He applied chromic acid to the turbinated bodies, and there was at once a marked improvement in the voice. So much pleased was the patient at the effect thus produced, that on two occasions afterward she came on from Philadelphia, between her performances, expressly to have the application made; and whenever he repeated it, it was always successful in restoring the lost brilliancy of tone. His practice was to apply the

agent in crystallized form by means of a flat copper applicator, and afterward, wash off the parts with Dobell's spray. No bad results from the use of chromic acid, he said, had ever been published. In conclusion, he deprecated the application of strong astringents and other powerful agents to the larynx.

Dr. W. C. JARVIS said that he had always found the spray a very useful means of treatment when it was properly employed; but the expression, "pound pressure," which was so frequently heard in connection with it, meant nothing of itself. Everything depended on the diameter of the pneumatic tube used, and it was only when this diameter was mentioned, together with the amount of pound pressure, that any adequate idea of the force employed could be obtained. Cocaine could be applied more efficiently by means of the spray than in any other way. When thus used, it produced an anaemia of the mucous membrane at once, and it was always noticeable that, in painful conditions, there was a return of the pain just as soon as the anaemia thus caused disappeared. If the cocaine spray was kept up for a considerable length of time with a small tube, we could get beneficial results which could be obtained in no other way.

There were, however, a certain proportion of cases in which cocaine could not be produced, and in these, the application of rhigolene was to be preferred when highly congested growths of the turbinated bodies were to be operated upon. A few seconds was all that was necessary to produce profound rhigolene anaesthesia, and, if a thick covering with any suitable unguent was made use of to protect the parts during the operation, the application of these agents was not attended by any unpleasant results.

The spray was also very useful for cleansing purposes. With a coarse spray, all the advantages of the douche could be obtained, while the hearing was not endangered, as was sometimes the case when the latter was employed. He was in the habit of using ten pounds' pressure with a tube one-eighth of an inch in diameter for a coarse spray, and with a tube of extremely small diameter for a fine spray. There was no method yet devised by which powders could be so satisfactorily applied to the upper air-passages, because in no other way could they be finely subdivided. There was, however, only one agent that was really tolerated in the form of powder, and that was iodoform. Even boracic acid or bismuth was not well borne by the mucous membrane of the upper air-passages, as could be readily tested, even when the latter was in a normal condition.

Chromic acid, he thought, should never be applied for turbinoid turgescence, but for papilloma it was excellent, and in papilloma of the larynx it was really a specific. Nitrate of silver he considered of more or less service in subacute laryngitis, and it was an especially useful agent for mucous patches. By forming a covering and protection for the ulcers, it permitted them to heal. As to surgical procedure, compared with other methods of treatment, he thought it a well-established fact that it was not really worth while to keep on making topical applications for an indefinite period, when, at a single sitting, one could remove the whole trouble. What, then, was the use of worrying with chromic acid, nitrate of silver, or the galvanocautery, Dr. Jarvis asked. The problem to be solved was merely a question of nasal drainage, and he claimed

that there was not a hyper-secretion, but that the trouble was due to distortion of the nasal planes and gutters. The so-called hyper-secretion resulted simply from accumulation, and when the nostrils were permitted to be flushed by the natural secretions, this entirely disappeared. The indication was, therefore, to remove all existing obstruction.

In conclusion, he stated that, in atrophic rhinitis, a cure could not be effected; great relief could be given by means of thorough cleansing and the use of unguents, especially vaseline, applied with the spray. In this manner, patients whose life had been a burden often for many years, on account of the intolerable stench attending the condition of the nasal passages, had, by the simple use of the deturgent douche and vaseline, been enabled to go once more into society without rendering themselves offensive to all around them. This practically constituted a cure in this incurable dry atrophy of the nasal passages.

#### AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

FIRST ANNUAL MEETING. Held at the Laurel House, Lakewood, N. J., May 17 and 18, 1887.

##### FIRST DAY.—MORNING SESSION.

The meeting was called to order by the PRESIDENT, DR. E. L. KEYES, of New York, at 11.30 A. M.

##### THE PRESIDENT'S ADDRESS.

DR. KEYES, in his address of welcome, first alluded to the circumstances which had led to the formation of the Association. Then speaking of the objects of the Association, he said he need not enter into the question of specialism as distinguished from general medicine and surgery. That distinction was being made for us by the circumstances of the times. The concentration of labor certainly yielded more perfect results than its general distribution. There was a field ready, and those who wished might enter in and work. Because a man belonged to this Association did not imply that he at all confined his ability to its peculiar line of study; but it furnished to him an arena in which he might develop his ideas and display the work he had done under the keen criticism of minds familiar with the subject-matter treated, and capable of still further refining, by their discussion, the quality of his work and enhancing its value.

##### A FEW STATISTICS ON THE COMPARATIVE FREQUENCY OF THE CHANCROID.<sup>1</sup>

DR. F. B. GREENOUGH, of Boston, read a paper with this title. He referred to the marked individuality that was given to the chancroid by the textbooks, in spite of which the great difference in the statistics by different observers would show that they must have used a different system or classification. Throughout this divergence of statistics, however, two facts appeared. First, that this lesion had diminished in its relative frequency to the true chancre with the exception of two periods in Paris, that is, during the war and siege (1870-1871) and during the exposition (1875), and that it occurred more frequently in hospital than in private practice. Dr. Green-

ough's records at the Boston dispensary from July 1, 1873, to March 31, 1887, gave a total of 1493 cases, of which 391 were chancroids, 219 true chancres, 931 doubtful, and 52 cases are herpes progenitalis; making the chancroid stand in proportion to other lesions in the ratio of one to three. These records were not satisfactory, as they showed only the diagnosis made at the time of the first visit. In private practice, out of 100 cases seen, ten were chancroids, sixty-three were true chancres, thirteen were doubtful, and fourteen were herpes progenitalis, being a ratio of one to ten. The diagnosis in these cases was much more reliable. Both sets of cases showed diminution in the frequency of chancroid.

DR. F. R. STURGIS said that according to his observation in Charity Hospital, New York, and dispensary practice, the number of cases of chancroid compared with those of chancre were diminishing.

DRS. R. W. TAYLOR, HYDE, MORROW, and ROCKWELL had observed a diminution in the relative frequency of chancroid to chancre. Dr. Hyde thought the need of time in which to form an opinion whether a given lesion would or would not be followed by the manifestations of syphilis should be more generally recognized. Dr. Otis did not agree in so general a condemnation of the cautery. When used early it was of benefit; used late it might do harm. The President agreed in the remarks made regarding statistics, but he expressed his belief in the virulence of chancroidal pus as compared with ordinary pus. He agreed with Dr. Otis that cauterization of virulent sores within the first ten days was good practice. Dr. Greenough closed the discussion.

##### SUPRA-PUBIC CYSTOTOMY FOR VESICAL TUMORS AND LARGE CALCULUS; A RECORD OF THREE CONSECUTIVE SUCCESSFUL CASES, WITH COMMENTS UPON VESICAL SUTURE AND A SUGGESTION FOR DRAINAGE.

The President read a paper with this title. He advocated supra-pubic cystotomy for vesical tumors, for certain foreign bodies, in cases of very large stone, and in certain exceptional instances for exploration. The method should not be adopted as the usual one in stone. He gave statistics showing that it was especially objectionable in children. He had operated for the relief of large fibro-papilloma, for flat villous growth, and for a large calculus. He described his way of dealing with hemorrhage and of applying the vesical suture. A double-curved retractor was exhibited, and a description given of his method of effecting perineal drainage by puncture, probe, and catheter, making only a small perineal incision. The drainage is considered by Dr. Keyes a most essential step in the operation, and the one feature which makes vesical suture safe and likely to be generally effective; while drainage in the perineum avoids one of the discomforts of supra-pubic section, namely obstinate fistule.

He prepares a 30 French red-rubber catheter by passing a string through it. The string being knotted inside the tip. This he passes by means of a long probe inserted through a puncture made upon a broadly-grooved staff, and by aid of a finger in the rectum thus entering the draining catheter through a hole only just as large as itself.

The paper was discussed by DRS. CABOT, ROCKWELL, BRYSON, and OTIS.

<sup>1</sup> To be published in a subsequent number of the Journal.

DR. A. T. CABOT, of Boston, read

A CASE OF HYSTERECTOMY FOR THE RELIEF OF PYELITIS FROM OBSTRUCTION.<sup>1</sup>

In the absence of the author, the secretary read a paper by DR. GEORGE CHISHMORE, of San Francisco, entitled

SOME CASES OF PYELITIS IN WHICH FREQUENT AND PAINFUL MICTURITION WAS THE CHIEF SYMPTOM.

Two cases in particular were cited to call attention to the fact noted in the books, but not sufficiently emphasized, namely, that frequent and painful micturition might be so pronounced a symptom in pyelitis as to mislead the experienced observer as to the nature of the case, and cause him to address treatment to the bladder alone, while the real malady was in the kidneys. In one of his cases in which frequent and painful micturition was the chief symptom, the man had sustained a violent muscular strain in the region of the kidney, and for some years afterward suffered in the extreme, and was treated for cystitis by some of the most distinguished specialists; but finally the abscess of the kidney discharged, and the patient recovered.

In the second case, treatment was directed to presumable cystitis, and at the autopsy the kidney was found riddled with abscesses. He asked, how many times has the healthy bladder been subjected to every variety of persistent treatment while disease of the kidneys has gone on, only shown to be present by post-mortem examination?

He believed that in many cases the diagnosis of pyelitis could be made only by exclusion.

FIRST DAY.—EVENING SESSION.

ON HORNY GROWTH OF THE PENIS, WITH EXHIBITION OF A REMARKABLE CASE.

DR. J. H. BRINTON, of Philadelphia, read the paper, exhibiting a specimen, and referring to those on record. His specimen was from a man on whose penis a horn had existed more than four years, having started from a wart. The wart had itched occasionally and the patient had scratched it for this reason. Gradually it turned into horny substance. It caused no trouble excepting mechanical interference with coition. The horn sprang from the base of the glans, at the coronary border, and was attached to both the glands and prepuce, it was one-and-seven-eighths inches long, one-and-three-eighths inches in circumference; it was curved forward. A peculiar feature in this particular case was the fact that a horny plate surrounding the meatus almost occluded the meatus, so that the urine passed only in drops. The urethra behind the horny plate was not contracted. The horn was cut off and the man left the hospital after about three weeks.

The rarity of horny growths upon the penis was somewhat remarkable. He was surprised to find only fourteen cases recorded in English, German and French literature. A few more cases had been vaguely alluded to. They occurred either as well-marked projecting horns or as rough, flat, horny plates, occupying the glans penis; they were sometimes multiple. The longest on record was three inches.

DR. CABOT had seen a horn, perhaps the size of the thumb-nail, occupying the dorsum of the glans penis,

<sup>1</sup> See page 517 of the Journal.

in a patient of Dr. Bigelow's, about twelve years ago. He could not say whether it had been reported.

DR. J. P. BRYSON, of St. Louis, then read a paper,

ON THE CHOICE OF OPERATION FOR THE REMOVAL OF VESICAL CALCULUS IN CASES COMPLICATED BY PROSTATIC OBSTRUCTION.

It seemed strange to the author how little influence prostatic enlargement has upon the cutting or crushing operation, for stone in the bladder. He believed that very rarely was section made purely for prostatic reasons, that is, with the intention not only of removing the stone, but for reducing the size of the prostate as well, and thus reducing in intensity, at least, the causes which were the most active in the production of stone, as well as lessening the sufferings of the patient in after years. Since 1884, he had operated for stone by prerectal section in four cases, all complicated by a large hypertrophic prostate gland, and had had opportunity to observe one other similar case in the practice of a friend. The age of the patients varied from sixty-five to seventy-four years. The operation in each case was successful. In one of his cases he had occasion again to make an incision and enter the tip of his finger, having failed at the first operation to entirely evacuate all the fragments; in two others opportunity to remeasure the size of the prostate was offered during an operation for return of the stone. In one case he estimated the reduction in size of the prostate after the first operation, to have been about one-third in its length, and in the other about one-fourth: in none was there now any residual urine of importance. He did not believe that any other operation for removal of the stone would have been attended by so marked reduction in the size of the enlarged prostate.

The PRESIDENT remarked that while the success of the cutting operation in the cases reported by Dr. Bryson, and occurring in old people, had been all that one could ask, yet this operation was shown by statistics to have a much larger mortality in the aged than litholapaxy. Whatever the effect of the cutting operation upon the size of the prostate, he thought we should do the crushing operation first, if it were practicable, as it was much less dangerous, and if it failed to relieve the symptoms, to consider afterwards the propriety of any other procedure. He regarded Dr. Bryson's paper as very suggestive.

DR. BRYSON said that in none of his cases was the cutting operation the operation of choice. The effect upon the prostate having been noticed, he thought it was worthy of consideration. The discussion was participated in by Drs. Otis and Cabot.

(To be continued.)

## Recent Literature.

*De l'aphasie et de ses diverses formes.* Par le Dr. BERNARD. 8vo. pp. 271. Aux bureaux du Progrès Medical. Paris: 1885.

This is the work of one of Charcot's pupils, and is based largely upon work done at the Salpêtrière under his direction. The author has studied the literature of the subject very fully, as is shown by the large number of references, and the observations on the cases quoted have been made with the greatest care, and are of the utmost interest, yet the work as a

whole, is not very satisfactory. After a preliminary consideration of the history of the subject, and of the subject of speech and its localization, the author discusses the different forms of aphasia under the following headings: Word-blindness, word-deafness, aphemia (motor-aphasia), agraphia, and the mixed forms of aphasia. He scarcely mentions paraphasia, however, and his grasp of the whole subject fails in comprehensiveness. Although his individual observations are interesting, he does not give the ordinary reader a very clear or systematic conception of one of the most difficult disorders that may arise in diseases of the brain, and therefore the work will appeal only to those who desire a careful clinical study of a number of cases of the different forms of aphasia.

*A Compend of Diseases of the Eye: Including Refraction and Surgical Operations.* By L. WEBSTER FOX, M.D., etc., and GEO. M. GOULD, A.B. pp. 148. Philadelphia: P. Blakiston, Son & Co. 1886.

The above work is the eighth in a series of *Quiz-Compend*s published by the above firm, and does not claim to be an elaborate treatise on ophthalmology, its object being "to supply the medical undergraduates with the most notable points concerning the diagnosis and treatment of ocular disorders, whether pathological or refractive." To compress the whole of ophthalmology within the above limits, resolves the book into a series of definitions of technical terms and diseases, and an empirical statement of the treatment of these various diseases. The book is written in a clear and forcible style, and every word it contains has reason for its insertion. A large proportion, sixty-two pages, is devoted to refraction. This is as it should be, as refraction is rapidly becoming a subject in which the general practitioner should be able to make a diagnosis, at least. The chapter upon operations is clear, concise and accurate.

M. S.

*A Treatise on Simple and Compound Ophthalmic Lenses, their Refraction and Dioptric Formulae.* By CHAS. F. PRENTICE. pp. 40. New York: James Prentice & Son.

This is a book which strives to explain the refraction of the various lenses used by ophthalmic surgeons without recourse to mathematical formulæ but by graphical means. The diagrams are models of neatness, clear, and very nearly explain themselves, but the text is not always an aid to the diagrams; this is more especially the case in the opening chapter, in the method of determining the direction of a refracted ray. The diagrams in the chapter upon asymmetrical surfaces showing two cylindrical surfaces upon one side of a lens, are a very clear and simple demonstration of a subject which has been much befogged in some recent ophthalmic literature. There are appended to the book tables of crossed cylinders and their spherocylindrical equivalents which will be handy for ready references, although the last line in the first table has an error of 0.25 D. in each field.

M. S.

*The Functions of the Brain.* By DAVID FERRIER, M.D., LL.D., F.R.S. Second edition. Re-written and enlarged, with 137 illustrations. 8vo. pp. xxiii, 498. New York: G. P. Putnam's Sons. 1886.

The present edition of Dr. Ferrier's well-known work "has been almost entirely re-written," and "a good deal has been added" since the first edition appeared in 1876; but the author boldly asserts that "the principal doctrines formerly advocated are main-

tained in all essentials unchanged." During the ten years that have elapsed, Dr. Ferrier has remained at the head of English investigators, but in that time Goltz has attacked, with some show of proof, the whole theory of the localization of motor centres in the cerebral cortex; Munk has asserted that those centres were, in part at least, of a sensory nature; Fritsch and Hitzig have continued their investigations; Franck and Pitres have published various observations; Exner has studied the whole subject from the standpoint of human pathology; and Luciani and Seppilli have published, almost coincidently with the present volume, the result of their long-continued observations. Moreover, these various observers, as careful as Dr. Ferrier in their experiments, and far more cautious in their judgments, are still in doubt as to the certainty of their knowledge of the functions of the brain. That in the convolutions about the fissure of Rolando are situated the centres for motion, few to-day will deny, but their exact location and limitation is still an open question, and few of the observers on the Continent will admit the minute localization of the functions of the cortex described, ten years ago, by Dr. Ferrier, and still maintained unchanged by him and his pupils. Furthermore, Dr. Ferrier's methods of investigation are not to be accepted without question. It is a matter of grave doubt whether the electrical stimulation of the brain, which is Ferrier's favorite method, can be limited with sufficient exactness to be of value. Most observers believe that the current is so much diffused as to render the results uncertain. Nor does the actual cautery commend itself to many as the most accurate method of destroying brain tissue. These, however, are the methods which Dr. Ferrier chiefly employs.

We have space to comment especially upon but one portion of the volume—the section on the visual centre. Dr. Ferrier's zeal against Munk leads him to deny that lesion of one occipital lobe can cause hemianopsia, or that lesion of both lobes can cause blindness, and he affirms that "there is not on record a single case of cortical lesion, limited to the occipital lobe, in which hemiopia has occurred." The centre for vision is placed in the angular gyrus and the occipital lobe, the former having most to do with monocular vision, the latter with vision of one-half of each retina. He supports, with but slight variation, Charcot's old theory of the double decussation of the optic tracts. His own experiments, however, seem to us to fail to sustain his position, and the whole section is an instance of false reasoning and hasty judgment, that mars the work. The proof of Munk's hypothesis, given by Seguin at an earlier date than some of the references in the present volume, is disregarded.

Much, however, in the way of assertion and dogmatism may be pardoned to a man who has done so much for the advancement of our knowledge as Dr. Ferrier has already done. The present volume, though marred at times, as we have said, by hasty conclusions and excessive dogmatism, is still full of valuable work. Dr. Ferrier has not only given his own investigations, but he has given an admirable and exhaustive review of the work of others. The volume before us is unsafe for the student beginning the study of cerebral localization; the methods of research are at times defective, the conclusions are not final; yet it is a work essential for the advanced thinker, and a most important contribution to our knowledge of the functions of the brain.

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### DEATH OF PROFESSOR VULPIAN.

In the recent death of Professor Vulpian, whose decease on the 18th ult., in the sixty-first year of his age, was recently announced by the cable, France has lost one of her greatest men of science, who was alike noted as a naturalist, as a physiologist and as a physician.

Vulpian's first great work consisted of a series of lectures on "Comparative Physiology," delivered in 1864, at the Museum of Natural History, and from the chair so long and so ably filled by Flourens. This course of lectures was afterwards published under the title: "*Leçons sur la Physiologie Generale et Comparée du Système Nerveux*," and has had a world-wide popularity. Multitudes of class experiments, related in a peculiarly vivacious style, give this book an extraordinary interest; the various vexed problems of innervation and cerebration receive a new light from comparative physiology as expounded by Professor Vulpian, while a sense of the essential unity of the whole animal kingdom pervades the work.

Next appeared two smaller treatises on "Digestion" and on the "Functions of the Liver"; but the great work of Vulpian is unquestionably his "*Lessons on the Vaso-Motor System*," which appeared in two volumes in 1875. Too much can hardly be said in praise of this work, which is unquestionably one of the most original productions of this age. Here, the most abstruse subjects of physiology are treated in an uncommonly lucid and felicitous style, and illustrated by experiments, many of which were of a very difficult nature. Much has been accomplished by the conclusions to which Vulpian's studies led, in the way of dissipating erroneous notions respecting the rôle of the vaso-motors, and of inculcating right views as to the part which this portion of the nervous system plays in the phenomena of sleep, inflammation, glyco-genesis, hysteria and epilepsy, animal heat production, etc. It is surprising that the work has never been translated.

The work on the vaso-motors was followed by the

"*Leçons sur les Substances Toxiques et Médicamentenses*," a treatise replete with interesting observations (the result of personal experimentation), on the action of medicines; and the "*Clinique Médicale de l'Hôpital de la Charité*," a work full of practical interest to the physician, making up a "year book" of Charity Hospital, in which all the most interesting cases during one year's attendance are recorded and commented on.

Continuing his studies in experimental pathology, Vulpian's next and unfortunately his last work was his two volumes on "*Diseases of the Nervous System*"; the first volume appearing in 1879, the second, which completes the spinal cord, the present year. Vulpian intended to have added to these a third volume on "*Diseases of the Encephalon*."

As a lecturer, Vulpian was always popular; as an experimental physiologist, he was hardly excelled, even by Claude Bernard; as a writer, his style is characterized by vigor, vivacity and clearness—even an occasional diffuseness may be readily forgiven in a writer who is especially solicitous to be understood.

Professor Vulpian was a member of most of the learned societies, and for several years Dean of the Faculty of Medicine, until, through political influence, he was replaced by Beclard, in whose recent death, moreover, France has lost another of her great physiologists.

### ANTIPYRINE AS AN ANALGESIC.

ANTIPYRINE, whose remarkable properties as an antithermic, though everywhere recognized, are still inferior to those of the more recent candidates for favor, has lately come to the front as a remedy of the first utility in allaying pain.

According to Germain Sée, its analgesic properties are especially marked in painful rheumatic or gouty arthritis, and in nervous states characterized by pain. He administered antipyrine to fifteen rheumatic patients, with or without fever and hydrarthrosis, who had been treated ineffectually by punctiform cauterizations and salicylate of sodium. The pain, with the swelling of the joints, disappeared in a few days. It was, however, necessary to continue the administration of the antipyrine in smaller doses for about a week after amendment manifested itself, in order to guard against relapse.

The same happy result was observed in cases of acute gout, whether grafted or not, or chronic gout, with uric deposits. The antipyrine, given in grammes-doses, from four to six times a day, caused disappearance of the pain and swelling in less than a week, and without the heart or the kidneys suffering any damage. But it is (according to the same authority) in nervous troubles of the sensibility that antipyrine produces the maximum of action. A first series of fourteen observations, relative to pains in the head, pertains to four cases of facial neuralgia, one of which was inveterate, and all of which yielded rapidly; to six of chronic mi-

graine, of which five were at once benefited by a two-gramme dose (thirty grains) of antipyrine; to four of headache, due to various causes, in all of which relief was obtained.

A second series comprehends eighteen cases of neuralgia or neuritis and myalgia, to wit, sciatica, neuritis from diabetes or zona, and of which cases two-thirds experienced immediate relief; cases of lumbago, some of long standing, and muscular or nervous pains of a similar character in different parts of the body (neuropathic pains, pains from strain or overwork). The results of antipyrine in these cases were gratifying.

Several months ago, Lépine, of Lyons, announced that antipyrine was of singular utility in controlling the lightning pains of locomotor ataxia. *Sée* confirms this observation of Lépine, and finds antipyrine to be much better for these lightning pains than the newer medicament, antefebriue.

In diseases of the heart and aorta, attended by those paroxysms of *angina pectoris* which often so tax the resources of the physician, large doses of antipyrine have been found to be signally efficacious. *Sée* reports six cases of aortic disease, and three of aneurism, characterized by painful crisis, which yielded to gramme-doses of antipyrine, repeated every hour, until three, four, or five doses were taken. The medicine is generally well borne, and rarely causes vomiting, or any other unpleasant effect. Exceptionally, there may be uncomfortable diaphoresis and depression under the larger doses. Individual idiosyncrasy is a factor to be borne in mind in the administration of any drug, and especially of a comparatively new one.

#### A TRAINING SCHOOL FOR MALE NURSES.

A BUILDING designed as a training school for male nurses is to be erected by Mr. D. O. Mills, in the grounds of Bellevue Hospital, at an estimated cost of \$80,000. It is to be organized on the same general plan as the schools for female nurses now in such general operation. The architectural plans have been approved by the Commissioners of Charities and Correction, and the James R. Wood anatomical and pathological collection is to be placed in a large apartment at the top of the building, which will be separated from the rest of it by a fire-proof wall. On the floor below quarters will be provided for the house-staff of the hospital. Part of the second floor will be given up to the sleeping-rooms of the male nurses, and the rest devoted to lecture-rooms, while the general offices of the institution will be on the ground floor. By a happy coincidence, on the very day that the Commissioners were ordered to tear down the old museum building which has contained the Wood collection for many years, the generous offer of Mr. Mills was made through his friend, Mr. W. H. Osborn, whose wife presented the noble Sturgis pavilion to Bellevue Hospital.

#### THE MEDICAL REGISTER FOR NEW ENGLAND.

PHYSICIANS belonging to the State medical societies of New England, were reminded, last week, that they might look for a new edition of the *Medical Register* in the fall. Dr. Brown, who has, for so many years, prepared this handbook, promises that this edition—filled from cover to cover with valuable information concerning societies, hospitals, schools, and the other matters which the physicians, dentists and pharmacists so frequently need to know about—shall in no way fall behind those already put forth.

Very naturally the earlier editions are out of date; that of the coming autumn will be brought as nearly to the facts as they exist to-day as is possible. It is not to bespeak for the book the cordial sympathy of all medical men as *purchasers*, that we now call attention to it, for their own interest will do that; but we desire to urge each one to do his share in *giving information*. In the same way that Dr. X., among the New Hampshire hills, may desire information concerning the office hours of Dr. Y., the specialist in Boston, or the method of getting a patient into a hospital, or the name of the army medical officer at Fort Warren, so Dr. Y. may wish to know the name of a reliable man in his very town and be glad to learn his qualifications, or the hospital in Boston may be glad to send a patient to a quiet retreat in the country for change of air and scene.

This composite end can be attained if each one and every one will, in turn, give information concerning himself, his hospital or dispensary, his local society, his charitable institution, or home, or retreat. Many new foundations have been created in the past few years; these new factors in the Armamentarium of the practitioner should be known, and can best be known through the agency of some general work on the subject like the *Medical Register*. What you would be glad to know of others, let others know of you.

#### MEDICAL NOTES.

—It is said, that there are twenty-seven distinct schools of "mental healers" in Chicago.

—The United States consul at Callao forwards to the Treasury Department a despatch from Valparaiso, dated April 12, 1887, as follows: "It has been officially declared that the cholera has disappeared from this port. There are only one or two isolated cases," also one from Santiago, dated April 13th, saying: "During the last twenty-four hours there have been four new cases of cholera, and four deaths in the suburbs of this town." He adds: "Peru has so far escaped the pestilence, and we are in hopes that all danger has passed. But the same strict sanitary regulations and precautions are still observed, and the board of health has given no expression of a change of programme since the information above referred to was received. The health of Lima and Callao is satisfactory."

—Some searching questions were asked at a recent sitting of the Austrian Reichsrath, by a Herr Pernerstorfer, according to the *British Medical Journal*, which reflected seriously on the management of the Vienna Allgemeines Krankenhaus, which is the largest hospital in Austria, and one of the largest in Europe, containing, as it does, over 2,000 beds. The charges, though denied in the first instance, are said to have been proved to be substantially correct. The complaints bore principally on the defective commissariat arrangements. These are reported to be at all times unwholesome and scanty, and the patients are alleged to have been kept for days without any food at all. In the whole establishment, there is but one bath, and the nurses, of whom 219 are women, and 19 men, are accused of having practised systematic extortion on the wretched patients, and to have ill-treated those who were unable or unwilling to pay. The Government promised to make a searching inquiry into the system of management, with the object of remedying whatever might be defective.

—A correspondent writing from Boston to the *Therapeutic Gazette* says: "I have never yet seen in any work on materia medica, therapeutics, or toxicology the following method of emptying the stomach in cases of opium-poisoning. I have found it rapid and effective in two cases. It is entirely mechanical, but acts in a very short time. Four to six ounces of sodii bicarb. stirred well into a goblet of water and swallowed. In a few moments follow it by a goblet of good vinegar. The result is, that a perfect fountain of the mixture, with the contents of the stomach also, flies out of the mouth into the basin. I first heard of it from Dr. Henry G. Clark, of this city."

To this the editor replies: "We think that this method of causing emesis has not been widely practised in the profession. It is certainly very heroic, and to one who has never seen the play of this human geyser, somewhat appalling. Probably in a strong, vigorous patient, the plan would not be able either to produce fatal strangulation or rupture of the stomach."

—The following mixture to stop toothache is given in the *Therapeutic Gazette*. It forms an oily liquid, and when introduced into a tooth-cavity, is said to be very effective:

Camphor	gr. lxxv.
Chloral hydratis	gr. lxxv.
Cocaine murici	gr. lv.

#### BOSTON AND NEW ENGLAND.

—The eleventh annual report of the Sea-shore House, at Winthrop, for the season of 1886, shows that the whole number of inmates was 202, of which 152 were patients. The chief diseases represented were cholera infantum, 15 cases; diarrhoea 36; dysentery 7; and debility 58. 110 were "cured," 29 relieved, 4 not relieved, and 9 died. 4 of the deaths were from cholera infantum, and of the 9 who died, 7 were hand-fed. The receipts for the year were \$3,137. Contributions may be sent, for this most worthy charity, to Elliott Russell, treasurer.

—The number of patients admitted during the year to the Washingtonian Home for inebriates, Albert Day, M.D., Superintendent, was 379 (last year 335); of these 163 were natives of Massachusetts, 94 of other States, and 122 of foreign countries. 326 were residents of Massachusetts, and 211 were married men. There were 95 cases of delirium tremens and one death; (last year, 73 cases and two deaths). The receipts from patients were \$11,900.78, which is about the same as in 1885, and \$1,150 less than last year; and the average cost of each patient was \$31.40, \$7.56 less than last year. The expenses of the year, as shown by the Treasurer's report, were \$12,240.07.

—The Barnstable County District Medical Society held its annual meeting at Dennis, May 10th. Officers were elected as follows: Dr. Clement of Centerville, president; Samuel Pitcher of Hyannis, vice-president; F. A. Rogers of Brewster, secretary; C. M. Hurlbut of South Dennis, treasurer; councillors, Drs. Doane, Munsell and Pitcher.

#### NEW YORK AND NEW JERSEY.

—Dr. Thomas F. Rochester, one of the leading physicians of Buffalo and Western New York, died May 24th, of Bright's disease. He was born in Rochester in 1823, and graduated from Geneva College in 1845. He received the degree of M.D. from the University of Pennsylvania in 1848, and afterwards continued his medical studies in the principal European cities for some time. In 1851 he established himself in New York, but, two years later, left the city to accept the chair of Principles and Practice of Medicine and Clinical Medicine in the University of Buffalo. Dr. Rochester was a prominent medical writer and consultant, and during the late war was appointed by President Lincoln to inspect the Union field hospitals. In 1875, he was elected President of the Medical Society of the State of New York, and up to the time of his last illness he was a leading Fellow of the New York State Medical Association, of which he was one of the founders.

—Six physicians on the visiting staff of the Jersey City Hospital have handed in their resignation to the Police Board of Jersey City, the cause of this action being the interference of the latter Board in increasing the staff by the appointment of eight additional physicians and surgeons. This leaves only two members of the old Medical Board, Dr. Reeve and T. R. Varick.

—James Preston died recently at Browntown, New Jersey, at the advanced age of one hundred and five years and five months. Up to the time of his death, he managed and directed the work on a farm of two hundred acres, and when he was in his one hundredth year he walked home from South Amboy, a distance of eight miles, in less than two hours. He was never known to have a sick day, and is said to have attributed his old age and good health, to some extent, at least, to his daily practice of taking a "night-cap" of good, old Jersey apple-jack before retiring.

## GERMANY.

— Prof. A. Vogel has been made honorary professor at Munich.

— The Sixtieth Session of German Naturalists and Physicians will be held at Wiesbaden September 18th to 24th next.

— Prof. Wm. Hack, of Freiburg, the renowned laryngologist and rhinologist, died recently from an attack of apoplexy.

— Dr. Wolfhugel, for some time in the Imperial Health Department of Berlin, has been called to Göttingen as Professor of Hygiene.

— Dr. Nathaniel Lieberkühn, professor of anatomy at the University of Marburg, and son of the discoverer of Lieberkühn's glands, died recently at the age of sixty-five.

— Prof. A. v. Kölliker, of Würzburg, Professor of Anatomy, and late President of the Anatomical Society, has been given the degree of Doctor of Law, by the University of Edinburgh.

— The German Association of Public Health will convene in Vienna September 26th to October 28th, to meet with the International Hygienic and Demographic Congress. The latter will meet in the University building. All governments are requested to send delegates.

— The South German and Swiss Otological Association met in Vienna recently in the clinic of Prof. Pollitzer, which gentleman was president of the Association. As many of the Association were his students this was made the occasion of the celebration of his twenty-fifth year as teacher.

— Prof. Olshausen, formerly of the University of Halle, has been added to the faculty of the University of Berlin, to fill the chair vacated by the lamented Schroeder. Prof. Olshausen took up his work on the 5th of May, and was greeted by an amphitheatre crowded to the last place. He opened with a feeling reference to his predecessor, his worth as a man, teacher, writer and gynecologist. Prof. Olshausen has been succeeded at Halle by Prof. Kaltenbach, of Giessen.

— The Anatomical Society, founded in Berlin, September last, held its session in the Anatomical Institute of the University of Leipzig recently. The meeting was, for so young a society, quite well attended and interesting. The programme was as follows: "The Asymmetry of the Face," Dr. C. Hasse, of Breslau; "Observations on the Brain of Man," Dr. M. v. Lenhosek, of Pesth; "The Mechanism of the Wrist-joint," Prof. Braune, of Leipzig; "Communication on Embryology," Prof. Ruckert, of Munich; "Glands," Dr. Stohr, of Würzburg; "The Development of the Pigment of the Skin and the Nourishment of the Epidermis," Dr. Karg, of Leipzig; "A Chapter in Vertebral Spermatogenesis," Dr. Banda, of Berlin; "The Place of most Acute Vision in Fish Eyes and Experiments with Hematoxylin in Coloring

Matter," Dr. Schieferdecker, of Göttingen; "The Traces of Parietal Eyes in Man," Professor Bardeleben, of Jena; "Morphological Contemplations," Dr. Albrecht, of Hamburg; "New Methods in the Field of Educational Embryology," Dr. Gerlach, of Erlangen. Interesting demonstrations in great numbers were made by different members. Reports were made by Professors Waldeyer and His, the former of Berlin, the latter of Leipzig. Prof. A. v. Kölliker, of Würzburg, was president. The membership was 190, of which 78 were foreigners. From Austro-Hungary 23, Russia 10, Great Britain 8, Switzerland 8, Netherlands, Belgium, Scandinavia, Italy and America each 6, France 1. These consisted of 124 anatomists, histologists, and embryologists, 18 zoologists, 14 pathological anatomists, 10 physiologists, and 10 practitioners.

### DISCELLAP.

#### THE PRIMARY ANÆSTHETIC STAGE OF ETHER.

DR. JOHN H. PACKARD, surgeon to the Philadelphia Hospital writes as follows in the *Polyclinic*: "I would like to say a few words about giving ether for its first anæsthetic effect. This man is now entirely himself. He will have no vomiting, no headache, and will be perfectly comfortable. The effect of administering ether in this way is much like nitrous oxide. Its advantages are very great. A man comes into your office with a painful abscess of the finger and you propose to open it. If you give ether to full insensibility, you have to keep him in your office for two or three hours, which is a great inconvenience. If you do the operation at his house, he has three or four hours of headache and discomfort, whereas, if you give ether to the first insensibility he recovers immediately and perfectly. You can let him sit down and hold one hand up while he holds the ether sponge himself. When the hand drops you have a period of from thirty to ninety seconds, in which the man is in a state of insensibility, during which time you can open an abscess, or reduce a dislocation, or perhaps even replace a hernia. In a few minutes the man is fully recovered, and is able to walk away. I think that this method of administering ether is absolutely free from danger. It has been objected by good authorities on the subject of anæsthetics, that partial anæsthesia is always a condition of peril. Very good; but you do not keep the patient in a state of partial anæsthesia. You simply take advantage of a stage through which he must pass, and therefore you do not add in the least to the danger."

#### GROWTH OF PATHOGENIC ORGANISMS IN WATER.

THE problem, how long will bacteria of known pathogenic powers retain their vitality in potable water is one of growing importance in the development of a sound system of water analysis. The *Polyclinic* refers editorially (May, 1887) to several important communications on this, from trustworthy sources, which

have lately appeared. In the *Zeitschrift f. Hygiene* Meade Bolton discusses the subject, and also Dr. Percy Frankland in the *Sanitary Record*, and Dr. Kraus in the *Archiv f. Hygiene*. The conclusions, as might be expected, do not quite agree. Frankland has shown beyond doubt the great benefit to be derived from filtration, and his latter results show that sporeless bacilli are little likely to multiply in water, but that different species of microbes behave very differently—in other words, no general law can yet be laid down. Kraus' observations appear to be very valuable from a practical point of view. He premises very plausibly that experiments made upon sterilized water, or on samples maintained at blood heat, have but little practical bearing, and that the sample should be in the normal condition. Kraus inoculated samples of river and pump-water with well-known species of pathogenic bacteria, and noted the growth under ordinary conditions. He found that the number of the pathogenic organisms soon began to be reduced, while the non-pathogenic varieties already present in the water increased. At the end of a few days no living pathogenic organisms could be found. This result does not seem strange. Among rapidly multiplying organisms the struggle for existence must be an important factor, and in the average water the microbes normal to it will be likely to be the victors in any such struggle. Something will, of course, depend on the supporting power of the water, and in this relation the amount of the organic matter may retain some significance. Frankland states that while Koch's comma-spirillum multiplies enormously in sewage, it does not in filtered well-water; and Finkler's spirillum, which closely resembles Koch's, could not be made to live a single day in either sewage or filtered water. In this connection may be noted the remarks made by Dr. Buchanan, in the report of the London Local Government Board, to the effect that perhaps the surest protection against pathogenic bacteria will be the agency of the non-pathogenic forms.

#### AN ECONOMICAL METHOD OF PREPARING ANTISEPTIC GAUZE.

DR. GERSTER, of New York, in an article in the *New York Medical Journal* of April 2, 1887, describes his method of preparing gauze as follows:

*Gauze*—that is, *cheese or tobacco cloth*, as it is called by the trade—can be procured at any dry-goods store for a trifling sum of money. Twenty-five yards of this fabric are divided into four equal parts. Each of these is folded eight times, and the piece is rolled up loosely and tied with a string. These four pieces of gauze are next made absorbent by freeing them of their oily contents adhering to the cotton from the gin or mill. They are put into a common wash-boiler, covered with water to which a pound of washing soda or saleratus was added, and boiled for an hour. After this they are rinsed in cold water for ten minutes to free them from the soda, are passed through a clothes-wringer and placed in a stone or glass jar or an enamelled kettle, filled with a corrosive sublimate lotion of 1 to 1,000 strength, to remain therein for twenty-four hours. From this they are passed through the wringer again, and hung up to dry over night, when the air is free from dust. The string put about each piece should not be removed until the time of drying, as it will

keep the folds from getting disarranged. The dried pieces are ready for use, and will keep clean wrapped in a towel or put away in a jar.

Whenever dressings are used, suitably-sized compresses, each having eight folds of cloth, can be cut out of the piece with a stout pair of sharp scissors.

Iodoformized gauze is made by sprinkling iodoform dust from a pepper-shaker uniformly over the moist compress, and rubbing it thoroughly into the meshes between the fingers.

An excellent substitute for gauze in an emergency is common cotton-batting well soaked in a solution of corrosive sublimate (1 to 1,000). The package of batting is unrolled in an ordinary manner, and cut into square pieces of desired size. Each of these is folded into a small square and thoroughly kneaded in a wash-basin filled with the mercuric lotion, till complete saturation is evident. Well wrung out, each piece is unfolded again to its original shape, and is ready for use.

Any clean textile fabric of cotton or linen, soaked in mercuric lotion, will be a good antiseptic dressing.

#### AMPUTATIONS FOR JOINT-DISEASES WHEN LUNG TUBERCULOSIS COEXISTS.

DR. LEWIS S. PITCHER, in an interesting paper upon the above subject in the *Annals of Surgery*, reaches the following conclusions:

1. The probabilities of a spontaneous cure, or prolonged abeyance of a tubercular bone or joint trouble, as a result of expectant and palliative treatment—that is, improved hygiene, rest, counter-irritation—is much greater in children than in adults.
2. The probability of the presence or early development of lung tuberculosis in case of tubercular bone and joint affections, is much greater in adults than in children.
3. Incomplete operations, as drainage and irrigation of joints, évidement, and resections in which all of the diseased tissue is not removed, are less likely to be followed by ultimate good results in adults than in children.
4. Operative interference of a radical character is justifiable at an earlier date, in the history of a bone or joint tubercular affection, in an adult than in a child.
5. When a lung tuberculosis is present, and an operation for the relief of a coexisting bone or joint affection is indicated, as the result of such operation, the lung affection, while in some cases influenced, is more frequently temporarily checked in its progress, and in some instances is apparently entirely removed.
6. Local relapse after an operation for an osteo-arthritis tubercular disease, lung tuberculosis existing, is exclusively conditioned upon incompleteness of the operation—the fact that somewhere tubercular tissue escaped removal—and not upon any influence exerted by the lung affection.
7. In any case of osteo-arthritis tubercular demanding operation, in which a doubt exists as to the possibility of removing absolutely all the diseased tissue by the more conservative methods of arthrectomy or excision, the coexistence of lung tuberculosis would be a circumstance that would add weight to the reasons for having recourse to the more radical operation of amputation.

8. After an amputation in perfectly healthy parts, as prompt healing may be expected in persons suffering from lung tuberculosis, as after such an operation on a healthy person. Relapses at the stump do not occur even in persons with advanced lung disease.

### Correspondence.

#### ACUTE INFECTIOUS UNIVERSAL MYOSITIS.

BOSTON, May 30, 1887.

MR. EDITOR, — Since I read the report of a case of "Acute Infectious Universal Myositis," before the Section

for Clinical Medicine, Pathology and Hygiene, of the Massachusetts Medical Society (published in the *JOURNAL* of May 26, 1887), the case has been published in full in the *Berliner Klinischer Wochenschrift* for April 25, 1887. Prof. Kussmaul gives the disease the name "Pseudo-Trichinose; eine besondere Form von Acuter parenchymatöser Polio-myositis." Contrary to my statement Prof. v. Recklinghausen reports hyaline degeneration of the muscles, but no fatty or granular degeneration. I see no advantage in the name "Pseudo-trichinose," as the disease has nothing to do with trichinosis, and I should much prefer the name "Acute Infectious Universal Myositis," as first given by Kussmaul in his clinical lecture on the case, and again applied by me in my paper upon the same case, as mentioned above.

Yours truly,

HENRY JACKSON, M.D.

#### REPORTED MORTALITY FOR THE WEEK ENDING MAY 21, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Croup.	Measles.
New York . . . . .	1,481,920	698	300	20.02	17.08	1.26	13.02	1.26
Philadelphia . . . . .	993,801	458	190	11.88	12.76	1.10	3.08	6.60
Brooklyn . . . . .	745,108	303	113	16.83	16.50	2.31	8.25	1.45
Chicago . . . . .	725,000	—	—	—	—	—	—	—
St. Louis . . . . .	438,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	128	36	9.36	4.68	.78	1.56	.78
Boston . . . . .	400,000	182	57	13.75	10.45	1.10	5.50	1.65
New Orleans . . . . .	242,750	127	61	26.86	5.74	22.82	.79	.79
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
District of Columbia . . . . .	210,000	68	24	4.83	—	1.61	—	1.61
Pittsburgh . . . . .	210,000	62	22	11.76	14.70	—	1.47	2.94
Montreal . . . . .	186,257	—	—	—	—	—	—	—
Milwaukee . . . . .	170,000	52	25	9.60	5.76	—	—	1.92
Providence . . . . .	121,000	49	13	22.44	6.12	2.04	4.08	10.20
Richmond . . . . .	100,000	43	17	6.99	10.65	2.33	2.33	2.33
New Haven . . . . .	80,000	17	5	17.64	17.64	—	—	—
Nashville . . . . .	65,000	23	13	26.10	17.40	13.05	—	—
Charleston . . . . .	60,145	33	14	3.03	—	3.03	—	—
Portland . . . . .	40,000	12	2	—	25.00	—	—	—
Worcester . . . . .	68,383	16	7	—	31.25	—	—	—
Lowell . . . . .	64,051	38	16	31.56	18.41	5.26	2.63	15.78
Cambridge . . . . .	29,690	23	8	26.10	4.35	—	4.35	17.40
Fall River . . . . .	56,863	24	10	4.16	8.32	—	—	—
Lynn . . . . .	45,861	21	4	4.76	14.28	—	—	—
Lawrence . . . . .	38,825	—	—	—	—	—	—	—
Springfield . . . . .	37,577	—	—	—	—	—	—	—
New Bedford . . . . .	35,293	10	6	—	—	—	—	—
Somerville . . . . .	29,992	13	2	7.69	23.07	—	—	—
Salem . . . . .	28,084	16	5	12.50	12.50	—	—	—
Holyoke . . . . .	27,894	10	3	10.00	20.00	10.00	—	—
Chelsea . . . . .	25,709	9	2	22.22	11.11	—	—	—
Taunton . . . . .	25,674	3	0	—	—	—	—	—
Haverhill . . . . .	21,735	6	1	—	—	—	—	—
Gloucester . . . . .	21,713	6	2	16.66	33.33	—	—	—
Brockton . . . . .	20,783	5	0	—	—	—	—	—
Newton . . . . .	19,759	4	0	—	25.00	—	—	—
Malden . . . . .	16,407	—	—	—	—	—	—	—
Fitchburg . . . . .	15,575	4	2	—	25.00	—	—	—
Waltham . . . . .	14,929	6	2	33.33	16.66	16.66	—	—
Newburyport . . . . .	13,716	11	2	—	9.09	—	—	—
Northampton . . . . .	12,896	3	0	33.33	—	—	33.33	—

Deaths reported 2,393; under five years of age 965; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 462, acute lung diseases 329, consumption 314, diphtheria and croup 152, measles 68, diarrhoeal diseases 63, typhoid fever 32, scarlet fever 27, erysipelas 13, cerebro-spinal meningitis 12, whooping-cough nine, small-pox seven, puerperal fever three. From typhoid fever, Philadelphia 13, Pittsburgh four, New York, Boston and Baltimore, three each, Richmond, New Orleans, Lowell, Lynn, Salem and Waltham one each. From scarlet fever, New York eight, Brooklyn seven, Boston four, Chelsea two, Philadelphia, Milwaukee, Providence, Cambridge, Somerville, and Salem one each. From malarial fever, New York four, Brooklyn and Baltimore three each, New Orleans two, Philadelphia, District of Columbia, Providence and New Haven one each. From erysipelas, New York six, Brooklyn three, Boston two, New Orleans and Milwaukee one each. From cerebro-spinal meningitis, New York three, New Haven two, Baltimore, Newport, Milwaukee, Nashville, Lowell, Fall River and Gloucester one each. From whooping-cough, Nashville two, New York,

Brooklyn, Boston, Baltimore, District of Columbia, Pittsburgh, and Milwaukee one each. From small-pox, New York seven. From puerperal fever, Brooklyn, Providence and Lowell, one each.

In the 22 cities and greater towns of Massachusetts, with a population of 1,036,330 (population of the State 1,941,465) the total death-rate for the week was 21.12 against 20.15 and 22.46 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,000, for the week ending May 7th, the death-rate was 20.9. Deaths reported 3,701; infants under one year of age 847; measles 249, whooping-cough 100, scarlet fever 45, diarrhoeal diseases 39, diphtheria 32, fever 22.

The death-rates ranged from 16.0 in Birkenhead to 34.2 in Preston; Birmingham 18.8; Bolton 16.7; Bradford 21.6; Hull 17.5; Leeds 20.7; Leicester 17.5; Liverpool 26.0; London 18.9; Manchester 31.0; Nottingham 17.2; Portsmouth 20.4; Sheffield 19.5; Sunderland 20.5.

In Edinburgh 19.0; Glasgow 22.9; Dublin 36.6.

The meteorological record for the week ending May 21, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom- eter.	Thermometer.		Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>		Rainfall.
	Daily Means.	Daily Means.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Means.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	
Sunday, ... 15	29.27	55.0	63.0	46.0	46.0	54.0	67.0	59.0	S.W.	E.	S.	1	6	9	C.
Monday, ... 16	29.14	54.0	59.0	48.0	46.0	54.0	62.0	57.0	W.	E.	S.	1	10	10	C.
Tuesday, ... 17	29.05	54.0	61.0	50.0	81.0	55.0	88.0	73.0	S.E.	S.E.	E.	6	10	6	C.
Wednesday, ... 18	29.58	55.0	56.0	45.0	100.0	100.0	94.0	98.0	N.	E.	E.	2	8	3	G.
Thursday, ... 19	29.96	69.0	82.0	52.0	81.0	56.0	57.0	48.0	W.	N.W.	W.	4	11	6	C.
Friday, ... 20	29.94	77.0	89.0	61.0	45.0	23.0	49.0	39.0	W.	W.	W.	6	15	16	F.
Saturday, ... 21	30.22	59.0	75.0	55.0	62.0	68.0	78.0	69.0	N.E.	E.	E.	10	8	3	C.
Mean, the Week.	30.066	60.1	69.0	52.0				43.6							

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; SL, Sleet; †, Inappreciable.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 21, 1887, TO MAY 27, 1887.

HUBBARD, V. B., surgeon. Granted leave of absence for one month, to take effect on or about June 1, 1887. S. O. 119, A. G. O., May 24, 1887.

ELDER, F. W., captain and assistant surgeon. Found incapacitated for active service by an Army Retiring Board, sick leave still further extended until further orders on account of disability. S. O. 116, A. G. O., May 20, 1887.

BURTON, H. G., captain and assistant surgeon. Granted two months' leave of absence, on surgeon's certificate of disability. S. O. 107, Division of the Atlantic. May 23, 1887.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING MAY 28, 1887.

DEANE, C. W., passed assistant surgeon. Detached from "Dale," and to Hospital, Mare Island.

HARVEY, H. P., surgeon. Orders to "Iroquois" revoked and wait orders.

DICKSON, S. H., passed assistant surgeon. Detached from Navy Yard, Washington, D.C., and to the "Dale."

WAGGENER, J. R., surgeon. Detached from the "Iroquois" and wait orders.

WHITE, STEUART S., assistant surgeon. Ordered to Receiving Ship "St. Louis," Navy Yard, League Island.

DR. JAMES G. FIELD, of Gordonsville, Va., commissioned assistant surgeon in the navy, May 23, 1887.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING MAY 21, 1887.

GOLDSBOROUGH, C. B., surgeon. Leave of absence extended to June 1st, on account of sickness. May 18, 1887.

GUTTERAS, JOHN, passed assistant surgeon. Granted leave of absence for four days, May 21, 1887.

ARMSTRONG, S. T., passed assistant surgeon. To remain in charge of service at Memphis, Tenn., until further orders, May 21, 1887.

DEVAN, S. C., passed assistant surgeon. Leave of absence extended thirty days, May 19, 1887.

CARLINGTON, P. M., assistant surgeon. Ordered to United States Revenue Steamer "Rush," May 18, 1887.

NORMAN, SEATON, assistant surgeon. To proceed to Marine Hospital, Baltimore, Md., for temporary duty, May 20, 1887.

HEATH, F. C., assistant surgeon. Granted leave of absence for thirty days, May 18, 1887.

WOODWARD, R. M., assistant surgeon. Appointed an assistant surgeon, May 20, 1887. Assigned to temporary duty at the Marine Hospital, Baltimore, Md., May 21, 1887.

#### SOCIETY NOTICE.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.—THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HY-

GIENE, will meet at Huntington Hall, Massachusetts Institute of Technology, TUESDAY, JUNE 7, 1887, 7.45 o'clock. Papers: Dr. J. W. Farlow, "Cascara Sagrada, and its use in the treatment of Constipation." Dr. P. C. Knapp, "The measurement of the Galvanic current, with some remarks upon Electrodes." Dr. Albert N. Blodgett, "A Case of Agoraphobia." Dr. F. W. Page will exhibit a gall-stone which was expelled after impaction of eighteen months, (weight 23 grains).

ALBERT N. BLODGETT, M.D., Secretary.

F. I. KNIGHT, M.D., Chairman.

#### SEA-SHORE HOME. RESIDENT PHYSICIAN REQUIRED.

Applications for the position of resident physician at the Sea-Shore Home for Children, at Winthrop, Mass., will be received until June 7th. Term of service about two and one-half months, beginning about June 15th. Residence and board furnished. Additional compensation as may be agreed. Application received from graduates in medicine only. Previous experience in the treatment of diseases of children preferred. For further particulars apply from 2 to 3 P. M. to

H. C. HAVEN, M.D., 19 Exeter St.

#### BOSTON CITY HOSPITAL.

Expected Operations, June 7th, at eleven o'clock: Removal of portion of tongue and lower jaw, for malignant disease; Amputation at hip, for necrosis of femur; Amputation at hip, for hip disease; Excision of knee.

#### BOOKS AND PAMPHLETS RECEIVED.

The Curability of Epilepsy and Epileptoid Affections by Galvanism and the Phosphated and Aromatized Bromides. By C. H. Hughes, M.D., St. Louis, Mo. 1887. (Reprint.)

Transactions of the Pathological Society of Philadelphia. Volume XII. Containing the Report of the Proceedings from September, 1883 to July, 1885. Edited by W. E. Hughes, M.D. Philadelphia: Printed for the Society. 1886.

Closure of the Jaws and its Treatment. By J. Ewing Mears, M.D., Professor of Anatomy and Clinical Surgery, Pennsylvania College of Dental Surgery, Surgeon to St. Mary's Hospital. Extracted from the Transactions of the College of Physicians of Philadelphia, February 2, 1887. Philadelphia: Wm J. Doran. 1887.

Live Birth in its Medico-Legal Relations. Annual Address Delivered before the Medical Jurisprudence Society of Philadelphia, January 1887. By John J. Reese, M.D., Professor of Medical Jurisprudence and Toxicology at the University of Pennsylvania. President of the Medical Jurisprudence Society of Philadelphia. 1887.

Circulars of Information of the Bureau of Education. No. 1, 1887. The College of William and Mary: A Contribution to the History of Higher Education, with Suggestions for its National Promotion. By Herbert B. Adams, Ph.D. (Heidelberg), Associate Professor of History in the Johns Hopkins University. Washington, 1887.

A Practical Treatise on Impotence, Sterility and Allied Disorders of the Male Sexual Organs. By Samuel W. Gross, A.M., M.D., LL.D., Professor of the Principles of Surgery and Clinical Surgery in the Jefferson Medical College of Philadelphia, etc. Third edition. Thoroughly revised with 16 illustrations. Philadelphia: Lea Brothers & Co. 1887.

### Necture.

#### THE POSITION OF THE MASSACHUSETTS MEDICAL SOCIETY; ITS RELATIONS TO MEDICAL PROGRESS, TO THE COMMUNITY IN WHICH WE PRACTISE, AND TO ITS FELLOWS.<sup>1</sup>

BY GEORGE J. TOWNSEND, M.D., OF NATICK, MASS.

MR. PRESIDENT and Fellows of the Massachusetts Medical Society: After nearly four decades of active professional life, a personal experience, embracing the first promulgation of the fact that there are diseases self-limited, culminating in the triumphs of antiseptics, retrospection leads us to consider what part we have played in all this, and suggests the topic to which I would invite your attention to-day.

We are accustomed to various opprobrious epithets: We are Allopaths, Old School Regulars, banded together for our own selfish gain and aggrandizement.

In the recent attempt to change the organization of one of our best appointed hospitals, an eminent lawyer, who should have known better, asks our late much-lamented President "if he would not adopt a system of medicine which would cure fifty per cent. more patients than his own"?—a question containing two manifest absurdities, and which necessarily could elicit no answer.

The distinguished divine who graced our last annual dinner with his presence counselled us charity towards other sects in medicine, and that we should not consider it impossible for a patient to be cured by any other system than our own, as if there could be sects and systems in medicine, as there are in theology.

It would seem as if the time had come for an earnest protest against such misrepresentation, such manifestations of utter ignorance of the true scope and workings of our Society.

Our Charter, in the crude fashion of its time, sets forth the objects for which we are incorporated. In its preamble, it takes for granted that the preservation or recovery of health is essentially necessary to the happiness of society, that it "is closely connected with the knowledge of the animal economy, and of the properties and effects of medicines, and that the benefit of medical institutions formed on liberal principles, and encouraged by the patronage of the laws, is universally acknowledged."

A careful examination of the articles of our incorporation shows that they are only adapted to the carrying out of the objects set forth in the preamble. There is nothing in them, nor in the by-laws enacted under them, which indicates any intention to confer exclusive privileges upon our Fellows, unless, possibly, exemption from enrolment in the militia may be considered such a privilege. Yet many of our Fellows render good service as medical officers of our various military organizations, to say nothing of our Society's record during the Secession War.

Have we, as a body, carried out the objects of our Charter? I can only say, "circumspice." There is hardly a general charity in our State that does not number amongst its workers one or more Fellows of our Society. The strictly medical charities are largely administered by them. Our dispensaries are officered by our younger Fellows, who, fresh from their earnest

student work, devote themselves with a zeal which often imperils health, and even life, to the treatment of the squalid poor. What is their compensation? A stipend that would not pay their office-rent, and the experience they gain; and that experience is of doubtful value to the general practitioner, so different are the conditions under which disease manifests itself in those whose surroundings defy all hygienic influences, and in those who enjoy the comforts and luxuries of life.

The staff of our hospitals is composed of men who have already acquired a position for themselves in the community, many of them known to fame, with world-wide reputations. They give hours, days, months of hard work, without money and without price, their only recompense the satisfaction of relieving suffering, and of advancing medical science.

Our teachers labor faithfully and earnestly in our schools, that they may fit others to succeed them in the work they do so well themselves. Their reward is a pittance that a first-class book-keeper would scorn.

But the medical charities of our cities are evident enough, and need not be enlarged upon. What shall be said of the unobtrusive, unknown charitable work done by our Fellows in the lanes and by-ways of our Commonwealth? Some of our inland towns employ a physician by the year, at a stipend of from fifty to one hundred dollars, to attend the town poor. But a large extent of country is entirely unprovided for, with no dispensary or hospital refuge within reach. Our country physicians, then, devote much time and hard work to the relief of the suffering poor. They take long rides to most inaccessible places, enduring summer heats, and literally breasting winter's snows, without the hope of fee or reward; with no other motive than to alleviate human suffering. In times of distress, in strait of money, in the prevalence of unusual epidemics, these charities amount to a very large proportion—in instances, to not less than a fifth of the physician's yearly work. Surely, such facts as these should protect us from the imputation of selfishness and greed of gain.

In what sense are we regulars? This is an unfortunate term, its converse occurring in our by-laws, as conveying to the minds of the community the idea that the Massachusetts Medical Society enjoins upon its Fellows a definite course or system of pathology and practice, deviation from which constitutes irregularity, than which nothing can be more erroneous. The term, in its application, is, indeed, rather negative than positive. We are regular just so far as we conform to our by-laws, to which we have all given our written assent, and we are irregular when we violate those by-laws, and are guilty of practices forbidden to Fellows. Those practices are, in brief, the professing to cure diseases by any exclusive system of medicine, the advertising, or offering for sale, of secret medicines, and the pretending to cure diseases by such secret medicines, or by any secret treatment.

Are we "Old School," "Allopaths," convertible terms, as usually accepted by the public? We belong to no school whatsoever, certainly, in view of the developments in medicine within the last half-century, not to an old school. As to allopathy, what the term may mean I am sure I do not know; but if, as defined in Dunglison, it means "a method of curing disease by remedies, the action of which, in healthy man, produces morbid phenomena different from those that we observe

<sup>1</sup>Annual discourse delivered before the Massachusetts Medical Society, June 8, 1887.

in the sick person," very few Fellows of our Society would attempt such a feat as all that implies.

This suggests a proposition which underlies the very foundation of our Society, which has already been publicly proclaimed by one of our Fellows, but which cannot be too often reiterated, or too strongly emphasized, which is that there is not, never has been, never can be, any exclusive system of pathology and medicine which can formulate and apply to the modification of disease, as it occurs in its infinite variety of conditions in the human system, all the facts that natural science, pathological research, and clinical observation are every day developing and adding to our store; that whoever attempts to establish such a system begs the question, assumes that the evidence is all in, and that no new fact can be discovered which may militate against his theory. From this, as a corollary, it follows that no exclusive system of pathology and medicine, no "pathy," whatever prefix you give it, can as yet be admitted as either proven or true, nor can it ever be, until medical science is a finality, about which nothing new is to be learned.

Is not this, then, the position of the Massachusetts Medical Society to-day, as at its inception? Seeking only the advancement of medical science, it grants the largest liberty in therapeutics, leaves to the judgment of the attending physician the treatment of every given case, forbidding only pretensions not founded on established facts and exacting only fealty to our Constitution and to our By-laws. These the Society has established as the best means of furthering its objects, the promotion of the health, in consequence the happiness of the community.

A glance, suggestive only in its scope, at some of the more prominent improvements in medicine, in which our Fellows have taken an active part, will best illustrate the relations of our Society to medical progress.

First, on this continent at least, an ever revered Fellow of our Society, our Preceptor-President, promulgated the fact, that there are diseases self-limited, running their course unabridged, though not modified by medical treatment. Though the pendulum swung to the opposite extreme, and in view of later developments, expectancy was carried too far in the treatment of those diseases, rarely has a greater boon been conferred upon suffering humanity, than by the assertion of the fact, that medicine will not cut them short.

How great a change this assertion wrought in treatment is rather amusingly illustrated by experience in one of those diseases, notably, typhoid fever. Going fresh from the teachings and practice of the senior physician of the Massachusetts General Hospital, whose principal medication in this disease was twenty drops of the spirits of nitrous ether, once in four hours, to country practice, we were early confronted by the opposite methods of an experienced and much respected professional neighbor. His treatment of the same disease consisted in the exhibition of fourteen emetics in daily succession, each one, as was triumphantly asserted, bringing up bile, and yet strange to say, his patient lived.

During our student days the only prerequisites for an examination for a degree in medicine, were that we should bring a certificate of a three years' course of study with some reputable physician and of attendance upon two courses of lectures in a college. The examination was oral, a written thesis only being re-

quired. Some of our physicians devoted themselves to the teaching of students in the interval between the lectures, but there was no organized effort to an association for that purpose until about the year 1840, when two of our then progressive young men met on Winter Street. The one proposed to the other to form a school for the instruction of students during a summer term. The proposition was readily accepted, and the subject being broached to two more of our Fellows, they at once enlisted in the work, and the result was the formation of the Tremont Medical School. Of these gentlemen three ably filled chairs in the Harvard Medical School, while the fourth was one of the founders of our most valuable special charitable institutions and a much beloved and respected physician. This school soon outgrew its original proportions and culminated in the present admirable and ever improving curriculum of Harvard Medical College.

Soon came the discovery of ether. Without going into the question of priority in discovery, many of us may yet remember when Morton first publicly demonstrated that insensibility during a grave and delicate operation could be safely produced. This operation was performed by the senior surgeon of the Massachusetts General Hospital himself, an illustrious pillar of our society, whose far-reaching sagacity comprehended at once the vast results foreshadowed by this first experience.

We are familiar now with its powers, rendering operations feasible which would be impossible without it, assuaging pain of every variety, and if not removing woman's primal curse, so far alleviating it, that rigid believers in ancient theology have even objected to its use in their own hour of tribulation, for that cause alone.

Yet those of us who can remember the cries and moans of surgical sufferers, their pains blunted only by full opiates in cases suitable, as the only anæsthetic available, can best realize what Fellows of our Society have done for humanity, by testing the powers and promoting the use of ether.

Though chloroform was soon after discovered, and our transatlantic brethren, ever jealous of Yankee inventions, vaunted its superiority over ether, its lethal qualities, unaverted by every precaution, soon rendered its use of questionable advantage.

In ophthalmic surgery, its last stronghold, it was attacked by a Fellow of our Society, who demonstrated to the British oculist, that ether was as speedy in action, with proper precaution rarely produced vomiting, rendered the eye as quiescent as did chloroform, with a freedom from danger as is possible in using so powerful an agent.

In preventive medicine, a Fellow of our Society, ever earnest in every benevolent work, after persistent and laborious efforts, induced our State to take the lead in establishing a Board of Health, having demonstrated the vast importance as well as feasibility of removing the causes of disease. Though afterward political chicanery and cowardice destroyed its usefulness for a time, and merged it in a triple monster as unpracticable as it was unwieldy, he has happily lived to see it restored to its pristine simplicity and effectiveness. His name should be blessed throughout the community for his efforts to induce a study of the causes of disease, and to impress upon the public the importance of avoiding them.

In surgical progress a few instances will suffice to indicate what our Society has accomplished.

One of our most illustrious Fellows, distinguished alike for his teaching and achievements in surgery, first threw new light upon injuries of the hip-joint, of inestimable value, especially to the general practitioner, who is not particularly versed in surgery.

Previous to his writings, dislocations of the head of the femur were classified and described clearly enough for diagnosis, and the difficulties in reducing them were well recognized. Our only means for attaining that end was the employment of force, hardly inferior to that which caused the injury. Various appliances had been devised for that purpose, which may well be characterized as the triumph of matter over mind.

It was reserved for him to discover the nature and cause of the obstruction to reduction, and in overcoming it, to substitute intelligent manipulation for brute force.

In impacted fractures of the neck of the femur, which had proved to be amongst the most obscure and intractable injuries, the teachings of the same author, summed up in a paper only too brief, have initiated a new era in diagnosis and treatment. The days of false joints and incurable lameness, with a possible suit-at-law for damages, are passed. The sufferer is now restored to usefulness and comfort by treatment epitomized in the one word, immobility, provided only that be sufficiently prolonged, while the necessary deformity resulting from the injury is practically slight.

The same author inaugurated a new era in vesical surgery, perhaps his crowning achievement. Previous to his researches, the only means of removing a vesical calculus was a dangerous and critical operation which the most experienced surgeon rarely approached without trepidation. Lithotripsy was accepted as hardly less dangerous, and as applicable to but few cases.

The converse now obtains. Our transatlantic brethren, while grudgingly acknowledging priority of suggestion, have made what might almost be termed frantic efforts to improve instruments and methods of operating. But rapid lithotripsy, as originated and perfected by one Fellow of our Society, and frequently and successfully performed by his coadjutors in surgery, stands to-day as one of the most important surgical improvements of our time. Without the possibility of a doubt, the sufferer from vesical calculus owes to a Fellow of our Society the discovery and promulgation of the best and safest means for his relief.

In special medicine, the record of our Society has been one of continued and effective progress.

In ophthalmology, especially, much has been done to preserve the integrity and usefulness of an organ, the loss of which renders life a burden.

Some thirty years ago, the treatment of one of the most painful, and to vision, dangerous, diseases of the eye, was, to say the least, as heroic as it was unsatisfactory. About that time, our senior oculist, whose work and writings have made his name a household word throughout our land, first demonstrated that iritis was amenable to treatment as effective as it is simple, and since that time the disease has lost much of its terrors. It is now daily treated by the general practitioner, to the great comfort of the patient, and with little danger of impairment of vision.

The same author has also demonstrated that another formidable disease of the eye, especially dangerous in infancy, can be effectively arrested without the use of

severe measures. Though his methods may be considered as still *sub judice*, and able oculists maintain the greater safety of the more severe treatment, the fact obtains that patients constantly recover from purulent ophthalmia by the systematic and careful use of mild astringents, combined with the most exact attention to cleanliness.

The efforts of another of our oculists, the son of a pioneer in ophthalmology, and one of the founders of the Eye and Ear Infirmary, to disseminate in the community a knowledge of the frequency and danger of color-blindness, should not be ignored. Though this infirmity, until lately but little known, may not be proven as a common cause of the fearful accidents by land and by sea, with which our daily papers teem, its probability as a misleading agent cannot be too strongly maintained.

In dermatology, our specialists have done much valuable work, the good results of which are by no means confined to their own practice. The general practitioner is now, by their researches, enabled to treat intelligently diseases of the skin which, not long since, were a source of perplexity, while want of success in their treatment, so easily recognized by the sufferers, constituted the opprobrium of the attending physician.

One of the most common of those diseases in general practice, eczema, has been demonstrated to be amenable to the persistent use of gentle remedies. Patients are no longer indiscriminately saturated with arsenic, nor scoured with drastic soaps; and though cases are constantly met with discouraging enough from their persistency, it is rarely necessary for the general practitioner to consign them to the specialists.

In other specialties, in laryngology, in otology, and the rest, similar progress has been made, and it may literally be said, in many an instance, that the blind see, the deaf hear, and the dumb speak, in consequence of the faithful labors of our specialists.

(To be continued.)

## Original Articles.

### DYSTOCIA CAUSED BY TONIC ANNULAR CONTRACTION OF THE UTERUS.<sup>1</sup>

BY CHARLES F. STRONG, M.D.

Assistant Surgeon Free Hospital for Women, Physician to Out-patients, Massachusetts General Hospital.

FOR the case reported below with its full clinical history, I have selected this title to avoid confusion with cases of the true ring of contraction, which it closely resembles, but from which also it differs in several important particulars, namely: the persistence of the cervix complete and entire throughout the whole labor; the high position of the contraction ring in the uterus, the absence of decided thinning of the uterus below the ring. These points I shall allude to more at length, but state them here for the better understanding of the case.

Mrs. X., primipara, twenty-seven, became pregnant in the latter part of May, 1886, and was under my observation from the following summer until her confinement February 18, 1887. The months of gestation were especially free from the usual troubles, and only during the six weeks immediately preceding con-

<sup>1</sup> Read before the Obstetrical Society of Boston, April 9, 1887.

finement, was it necessary for her to receive attention, first, for extreme constipation (a chronic habit), and second, for neuralgia of the diaphragm and intercostal muscles of the left side. About two weeks before confinement the pain shifted to the right side and remained quite constant although not so severe, for a week, and then disappeared. Early in my examination I palpated the position as occiput left posterior. On Friday, February 18th, I saw her at noon and found irregular pains with a little show had occurred since early morning. The cervix was not taken up nor the os open. She kept about all day, and in the evening the pains became more regular, about every fifteen or twenty minutes but only lasted about a minute. The cervix was very slowly being taken up. Chloral was given with the happiest effect, and a corrosive douche 1-3000.

Saturday, February 19th. Progress was very slow but the patient rested between the pains well, and her general condition was perfect. The pains were fairly strong but short. The cervix was still very distinct, and it was not until 4 p.m., that the os opened enough to admit the finger-tip. At 9 p.m. the os was about the size of a silver quarter-of-dollar. The cervix, very little shortened, pains strong and membranes protruding into the cervix. The head bobbed about above the pelvic brim, showing no inclination to engage. This condition of affairs lasted for several hours, the os, or rather the whole cervix slowly dilating—I say the cervix, because the impression given the examining finger, was of the cervix opening without the previous process of thinning or “taking up.” About this time, too, I noticed a peculiar depression of the anterior abdominal wall, a little more marked during pains, about one-third the distance from the umbilicus to the pubes. It gave to the abdomen much the same contour as an over-distended bladder produces. I knew the bladder had not been neglected, but for certain diagnosis passed the catheter, removing only an ounce or two of urine. As the hours went by, the depression became more marked, but although the idea of a ring of contraction presented itself to me I did not think it would be visible through the abdominal walls of a rather plump patient. Another point that interested me was the high position the uterine tumor retained. The delay in the labor was perfectly accounted for by the posterior position of the occiput aided, it seemed to me, by the presence of an unusual amount of liquor amnii, so at 3 a.m., on February 20th (Sunday), I artificially ruptured the membranes after a vain attempt to induce the head to engage without this procedure. At this time the anterior fontanelle presented, the cervix was the size of a silver dollar, and apparently about as long as normally in the eighth month. Manipulation through the cervical canal was difficult, but I succeeded in flexing the head enough to have it enter the pelvis; attempts at manually stretching the cervix did not advance the progress of the head, and I feared to do much in this way lest I should irritate the muscle into a state of rigidity. A good deal of liquor dribbled away, and after a couple of hours the head came well down into the basin of the pelvis, extended and lying quite transverse. At six o'clock, three hours after rupture, the pains losing all force, I gave the patient two hours rest with ether, and made an attempt to further flex the head, unsuccessfully, there being no resistance from above and the head pressing back into the uterus. At this time I determined a

slight narrowing of the antero-posterior diameter at the brim. The cervix extended in its entire circumference from the pelvic brim well down to the perineum. I saw no reason for interfering, as both maternal and fetal condition was good. Pulse 72 and 126 respectively. At eight o'clock I removed the ether (only a few whiffs were necessary to cause perfect rest). The pains started again, and in force to promise speedy termination, but when the head reached the upper part of the perineum, still pushing before it the elongated, undilated cervix, they again died out, reviving at intervals of twenty minutes, short and weak, nor were they materially aided by external pressure. The head was still extended, despite constant effort at flexion by manual and postural treatment. For the first time active interference seemed demanded, and at 11.30, under ether, the cervix was dilated and forceps applied. There was considerable difficulty in locking the blades, but when once in place the exercise of sufficient force to drag the patient along the bed, failed in bringing down the head. I also tried the forceps reversed, with the same result. The difficulty seemed to exist not so much in the disproportion between the size of head and pelvis, as in some elastic force that retained the fetus in the uterus. Removing the forceps I found the head easily repressed and the neck encircled by the cord, which was slipped off without much difficulty. Advancing the hand into the uterus I found the lower segment flaccid and roomy; and tightly surrounding the fetal body just above the pelvis a constricting band of uterine tissue. The band seemed about three-eighths of an inch thick on its lower edge (a very approximate measure). The existence of this ring decided against further trial of forceps, as also did the fact that as soon as the cord was slipped away from the neck it prolapsed and would not stay repressed. The position was as determined before, occiput left posterior. It was not easy to get my hand above the ring, but the anterior position of the fetal abdomen was of some advantage in this manoeuvre. I brought the right foot down to just inside the vulva, but could get it no lower although external manipulation was employed to the head and breech. I could not find the left foot until I followed down the left leg from the groin, because it laid between the upper detached portion of the placenta and the uterine wall, firmly wedged in. Bringing this foot down too, I completed the version rapidly, the head slipping by the ring with so distinct a snap that I thought it was the femur breaking. No trouble was experienced with the aftercoming head. Miconium had escaped freely after the first foot had been drawn down, and the child when born, was pallid, showing no signs of life. Dr. F. M. Briggs, who was assisting me, at once took charge of the child, female, six and one-half pounds, and after hard work resuscitated her. Attempts to express the placenta failed, and I was compelled to peel it from the uterus over a space about half-a-hand-breadth at its lower edge; all the rest of the placenta was free. The uterus contracted well, except on the right (on which side the placenta was attached). There was no hemorrhage nor any perineal tear.

The history of convalescence was uneventful. At no time was the temperature above normal, 99°. The peculiar uncontracted condition of the uterus on the right persisted until the fifth day, and then the normal oval shape was assumed. The baby had a bloody va-

ginal discharge from the second to the sixth day, at times quite profuse. A thorough examination of the patient at the end of the fourth week showed no laceration of the cervix or perineum, and an involuted uterus. The antiseptic precautions used were those suggested by Dr. Wm. L. Richardson in his paper before this Society, and included a thorough washing out of the uterus at the close of all the intra-uterine manipulations with a hot corrosive sublimate solution, 1-2000, followed by a douche of boiled water.

The points that clinically renders this case of especial value, and in which it differs from any other that I have found recorded, is the evident persistence of the cervix as an independent portion of the uterus throughout labor. The ring of contraction in this case certainly could not have been formed from the os internum, because the cervix dilated *en bloc*, as it were, never thinning out or retracting. Also, there was not, as is usually noted, a prominent caput succedaneum, but the head showed rather the absence of a strong propelling force, and this is entirely in accord with the condition as I found it under ether, that is, paralysis of the muscular structures below the ring of contraction, so that, even during a pain, the cervix could be readily stretched, and the lower portion of the uterus exerted no pressure upon the head, which, above the ring, was firmly grasped; nor did the walls mould themselves closely about the fetus, that is, the only expulsive force was in the small portion of the uterus which lay above the ring of contraction.

I did not recognize that marked attenuation of the lower uterine segment, which must have existed had this annular contraction been the usual ring of contraction, formed by shortening and thickening of the longitudinal fibres. Another point that impressed itself upon me was that, at the end of a pain, the head, even after it had entered the pelvis, receded as though snapped back by an *elastic force*, and the uterus immediately resumed its high position. In fact, I could observe no descent of the fundus during the labor. The abdominal depression has often been observed, but this fact, as a fact, had slipped from my memory, so I did not, perhaps, assign to it its proper diagnostic value.

I have ventured to separate from the mass of clinical details these especial points, and so isolate them into prominence, for I believe them to be in a measure diagnostic of a most dangerous complication of labor. The more dangerous because the fatal termination comes suddenly, with no warning, and where all seems well, except that progress is slow. I think, in this case, my patient was in danger perhaps several hours, while I, feeling that ineffectual pains, the usual accompaniment of a posterior position, had wearied the uterus, waited until after a good rest, strong expulsive pains should start up and terminate the labor. I interfered finally, not from any sign of exhaustion, maternal or fetal, but because the head having partially engaged, and making no advance, I wished to avoid too long-continued pressure. Perhaps, in another case, if the labor were tedious, I should sooner introduce my hand for exploration, but I cannot see at what time I could have been certain that I was dealing with a worse complication than inertia uteri and a posterior position of the occiput.

With regard to treatment, I propose to say but one word. There is the choice between forceps, version, or laparotomy, for I cannot think that a case of tonic annular contraction can terminate favorably, unaided.

I differ, perhaps, from most in that I should make a decided effort to employ the forceps before resorting to version, unless I found a decidedly narrow pelvis or a rigid cervix, either of which conditions, by increasing the resistance, would favor rupture of the uterus. I should elect forceps because it appears that it must be easier to drag the fetal body through the constricting ring than to double that same body upon itself, and thus force it through by version. In performing version, bring both feet down before attempting to turn, otherwise a foot or knee hitching above the ring may defeat all efforts. The question as to the limits within which version is safe must be decided in each individual case. In the case reported, the lower portion of the uterus not being as thinned as in those cases where it is formed from the dilated cervical portion, I think version was a fairly safe procedure; but in the thin, paper-walled uterus of the true ring of contraction, if a gentle attempt at version fails, I decidedly favor Caesarian section.

#### A FEW STATISTICS ON THE COMPARATIVE FREQUENCY OF THE CHANCROID.<sup>1</sup>

BY F. B. GREENOUGH, M.D.

THE portrait of the chancre, as given by the textbooks, is certainly clear, concise, and clean cut, such as would lead one to suppose that there would be no difficulty in recognizing a typical case of this lesion. An ulcer, starting as a pustule, appearing always in a few days, as the result of contagion from a similar one, having decided and well-marked characteristics as to its base and edges, with a tendency to affect the lymphatic glands in its vicinity, and capable, in its turn, of reproducing itself by contagion, is certainly very different from any other cutaneous lesion.

In spite of this individuality, the very different results given by the statistics of different observers as to its comparative frequency, would seem to show that they cannot have used the same rules in their classification of venereal lesions. Through all this diversity of statistics, however, a pretty constant regularity is to be found in two directions: first, that since the time following the period, which Bumstead has so appropriately called that of confusion, in venereal disease, when the chancre began to be accepted as distinct from the true syphilitic chancre, there has been a steady diminution in its comparative frequency; and second, that it is found to occur much oftener in hospital or public practice than in private; in other words, that the lower classes are more subject to its contagion than the upper ones.

A marked exception to the first statement is, however, noted and exhaustively treated of by Mauriac, when, at two different periods, in 1870 and 1871, the chancre increased in a most extraordinary manner for a time in Paris. The early statistics on this subject give, out of 341 venereal ulcers observed at the Midi, 215 chancreids, in a period of three months. M. Puche collated all cases at the same hospital from 1840 to 1850, getting a total of 10,000, the ratio being nearly 4 to 1 in favor of the chancreids, that is, 8,045 to 1,955. These figures are taken from an early edition of Bumstead's admirable work, in which it is also stated that the French observers have found that

<sup>1</sup> Read before the Association of Genito-Urinary Surgeons, at its first annual meeting, May 17 and 18, 1887.

in private practice this ratio is reversed, that is, that the true syphilitic chancre occurs more frequently than the chancreoid. In a table drawn up by Fournier, the proportion given is: chancreoids, 82; syphilitic chancres, 252; ratio, one-third. Fournier's explanation of this difference is that men of the lower classes frequent old prostitutes, who, being syphilized, are protected from another attack, whereas they are liable to an indefinite number of chancreoid contagions.

This explanation would be perfectly satisfactory were the primary lesion the only source of syphilitic contagion in a woman, but inasmuch as the secondary manifestations, such as mucous patches, broken-down papules, etc., are equally so, it is hardly conclusive.

From my own experience, and judging from the comparatively few cases in which I have been able to examine a suspected woman, I should say that the cases where a man was infected from a primary lesion were very rare, and that in the great majority of cases the source of the contagion was some constitutional manifestation, of the existence of which the woman often was unaware. That this difference in ratio exists between hospital and private practice is shown by several of the best French syphilographers' statistics. Is it not possible that many cases may apply for treatment as out-patients on the first appearance of a venereal sore, which looks like a chancreoid, and is entered on the books as such, but which, if kept sight of and watched, as would be the case in private practice, would be found, in the course of time, to develop induration, inguinal reaction, etc., and turn out to be a case of syphilitic infection? That a large proportion of the cases from which the statistics are derived in Paris are only seen as out-patients, is shown by Mauriac's tabulation of his cases at the Midi, during the year 1880, from which it appears that, out of 969 cases of chancreoid without buboes which were seen, 80 were admitted into the hospital, and 889 were "consultants." To return to the comparative frequency, it can be said that all the earlier statistics give to the chancreoid a very decided preponderance numerically over the true chancre, Bassereau placing the proportion during 1837-1838, in Ricord's service, as high as 30 to 1. Later observers have universally noted a change in this respect. The edition of Bumstead and Taylor of 1879, which gives a very complete *résumé* of the literature of the subject up to that date, gives the ratio of the chancreoid to the true chancre, during the years 1869 and 1870, as nearly two of the latter to one of the former.

Mauriac, in his "Maladies Vénériennes," 1883, treats this subject most thoroughly, and, without going into details, it may be said that there was a gradual diminution in the frequency of cases of chancreoid, relatively to those of the true chancre, up to 1870-71, during which year the ratio of 3 to 1 was reached. From 1871 to 1875, the relative frequency of the chancreoid decreased, its ratio being in that year as low as 1 to 10. This ratio increased again from that period up to 1880, when it was a little over  $1\frac{1}{2}$  to 1. These two rises in the ratio, that is, in 1870-71, and after 1875, are considered by Mauriac to be due—the first to the Franco-German War, the Commune, and sieges of Paris, and the consequent license; and the second to the great influx of workmen to prepare for, and strangers to visit, the Exposition in 1878. His explanation of the steady tendency of the ratio to decline when no such disturbing factors exist, will be re-

ferred to later. The first series of statistics of my own that I have to give are, in certain respects, very unsatisfactory. They are taken from the case-books of my service in the Department for Skin and Venereal Diseases at the Boston Dispensary, starting from July 1, 1873. Having carried them up to March 1st of the present year, they cover a period of thirteen years and nine months. The entries in the books give the name, age, sex, residence, and diagnosis of the case on the date of the patient's first applying for treatment. Future developments are not recorded, as a rule, although there is a space of about two inches on one line, under the heading of "Remarks," which can be utilized in any case which is especially interesting or important.

The system of classification which I have adopted for lesions supposed to be the result of venereal contagion, is to enter as chancreoids those cases which show typical chancreoid character, and as primary lesions, or indurated chancre, those that evidently belong in that category. The quite large number of cases, which, when first seen, are doubtful in their nature, are entered as chancres. Besides these three classes, my records show that a certain number of patients came for advice, supposing that they had contracted venereal disease, who had herpes progenitalis. These Dispensary statistics, therefore, will not give the proportion of cases of chancreoid to those of true chancre seen, but will show that out of so many cases of venereal sores, a certain number were chancreoids. Inasmuch as a case would be put down in the doubtful class, because there was something about it which pointed to the possibility of its turning out to be a true chancre, the chances are that the great majority of these doubtful cases did, in time, develop into such, and I am convinced that such has been the case, but it is only a conviction, not backed up by evidence. Again, some of the cases entered as chancreoids, later developed induration, inguinal adenopathy, and were followed by secondary symptoms. The ratio, as given by my table, between the chancreoid and other lesions, is probably not very different from what it would be between the chancreoid and true chancre, had it been possible to follow up each case until its character was pronounced.

CASES OF VENEREAL SORES SEEN AT THE BOSTON DISPENSARY, FROM JULY 1, 1873, TO MARCH 31, 1887. SERVICE OF F. B. GREENOUGH, M.D.

YEAR.	Chancreoids	Doubtful	Indurated Chancre	Herpes Pro- genitalis	Total	Ratio of Chancreoids to total
1st. July 1, 1873 to June 30, 1874	7	41	3	5	56	1:8
2d. July 1, 1874 to June 30, 1875	11	48	5	0	64	1:1.6
3d. July 1, 1875 to June 30, 1876	2	49	8	0	59	1:28
4th. July 1, 1876 to June 30, 1877	41	65	14	1	121	1:2.3
5th. July 1, 1877 to June 30, 1878	57	61	15	1	134	1:2.2
6th. July 1, 1878 to June 30, 1879	21	41	7	0	69	1:3.3
7th. July 1, 1879 to June 30, 1880	37	47	14	1	99	1:2.3
8th. July 1, 1880 to June 30, 1881	45	74	14	5	138	1:2.3
9th. July 1, 1881 to June 30, 1882	48	75	11	4	138	1:2.3
10th. July 1, 1882 to June 30, 1883	57	76	15	5	153	1:2.3
11th. July 1, 1883 to June 30, 1884	22	83	26	10	141	1:2.7
12th. July 1, 1884 to June 30, 1885	24	125	34	13	196	1:2.8
13th. July 1, 1885 to June 30, 1886	14	83	43	6	146	1:10
14th. July 1, 1886 to March 31, 1887	25	83	19	2	99	1:4
Total	391	951	219	52	1593	1:4

The absence of something corresponding to my

"doubtful" column in the French hospital statistics, seems to me to detract somewhat from their value, as there are certainly many cases, which when first seen, no diagnostician, however skillful he may be, can determine the nature of with certainty. A consideration of the preceding tabulation shows, that while there are some irregularities in it, notably in the third year, where a most extraordinary and inexplicable divergence is found, there exists a fairly constant ratio, the frequency of the chancreoid rather diminishing during the last four years, and in all of them being less than that given by the earlier statisticians.

The second set of statistics which follow, while much less, numerically, are more reliable and consequently more important. They are collated from a hundred cases that have consulted me in private practice, for venereal lesions, or lesions supposed to be venereal following exposure. In these cases the diagnosis was not made at the first visit, but has been taken from the case-books as resulting from a continued observation of the patients. The cases have not been selected, but have been taken by going back from the present time until a hundred were obtained. Even under these favorable circumstances I have found it necessary to have a column for doubtful diagnoses. It is of course a very much smaller number than come under this head, than in the Dispensary practice, but nevertheless there are certain patients, some of which I saw only once in consultation, at which time the diagnosis was doubtful, and others of whom I lost sight before the true character of the lesion could be definitely settled. The following is the tabulation of 100 cases seen in private practice.

Chancreoid	10
True Chancres	63
Doubtful	13
Herpes Progenitalis	14
Total	100

Ratio of chancreoids to total lesions  $\frac{1}{10}$ .

Ratio of the chancreoid to the true chancre, a little less than  $\frac{1}{5}$ .

These statistics therefore agree with those of other observers both as far as showing that the chancreoid is less frequent in hospital or dispensary practice, than in private, and that it is very decidedly less seldom seen at the present time than formerly. What the cause for this falling off in its comparative frequency is, is a very interesting question, on which I have a few suggestions to offer. Mauriac, who devotes several chapters to the discussion of this subject, gives reasons, which with one exception, which will be referred to later, are strictly local. Briefly stated these are: the more perfect police regulations regarding the tolerated houses of prostitution and registered prostitutes, and the great improvements that have been made in the general sanitary and hygienic condition of Paris. He refers to the fact that a chancreoid in a woman is apt to be a more decided lesion, and more easily seen on examination than some of the syphilitic lesions which would be contagious. This fact is of some importance with us, as although we have no system of inspection of public women, one can easily conceive that that class of prostitutes who depend upon the men of good social position for their living, would not be likely to infect a patron knowingly, whereas they might conceivably give him syphilis from some relapse of which they themselves were entirely ignorant. In 1876, I read a paper before the Boston Society for Medical

Improvement "On the Treatment of the Chancreoid," the main object of which was to protest against what at that time, was universally laid down in the text-books as the proper treatment for the chancreoid, destructive cauterization, which was, however, even then, by no means invariably practiced. The reasons advanced were briefly, the painfulness of the treatment, the almost certainty of producing an inflammatory phymosis in cases where the prepuce was long, the masking of the diagnosis by setting up a pseudo induration of inflammatory origin, the likelihood of starting a suppurating inguinal adenitis, and last, but most important, the fact that the lesion did better when treated in a milder way. The ten years and more that have elapsed since then have only confirmed me in the correctness of the views advanced, and I have not since then once used cauterization in the treatment of a chancreoid. It may not be apparent what connection there is between the treatment and the frequency of this lesion, but if I am correct in assuming that destructive cauterization is worse than useless, the older syphilographers were entirely mistaken, and such men as Ricord, Diday and Clerc went on for years needlessly putting their patients to great pain, unless there has since their time been some change in the character or type of the disease. And such I believe must be the case. In the paper which I have referred to, which appeared in the *Boston Medical and Surgical Journal*,<sup>2</sup> I made the statement, that in my opinion, besides being less commonly met with in practice than formerly, we did not see such severe cases of chancreoid, one destroying much tissue, and resulting in a deforming cicatrix, being very rare. Of the correctness of this statement also, I am still further convinced, not having seen since that time a single case where decided loss of tissue resulted from a sore, which came under my observation in an active state. I have no doubt but what, if I visited Deer Island or Tewksbury, or the Chelsea Marine or Naval Hospitals, I could see such, but I believe many fewer than twenty to thirty years ago. It was with much pleasure that I came across the following statement by Mauriac, which I translate. After describing the serious result of phagedenic action on chancreoids in the past, he says,<sup>3</sup> "Phagedenism which so frequently formerly interfered with the cure of chancreoids, which made them very serious and even disastrous affections, has become an entirely exceptional phenomenon. We scarcely see two or three cases yearly in our service, and even those are of a benign character, and are not difficult to control."

That a disease may in the course of time become modified as to its severity, is, I think, shown in the case of syphilis, as far as its manifestations on the skin go. We certainly see fewer of the ulcerative syphilides in proportion to the number of cases treated at the present time, than were seen twenty or thirty years ago, judging from the literature on the subject, and also from the cicatrices seen in old cases. That this difference is in a great measure due to the improved treatment, I have no doubt, but we do see certain cases where through ignorance, or recklessness, practically no treatment at all has been taken, and yet the patients never have any relapse either in themselves or offspring. It must, however, be said that while the large majority of cases of syphilis are com-

<sup>1</sup> Vol. xcvi. January 11, 1877, No. 2.

<sup>2</sup> Leçons sur les Maladies Vénériennes, Paris, 1883.

paratively benign, the lesions of the nervous system are much more frequent than formerly, especially during the early stages of the disease. We must either admit that these nervous lesions have increased in frequency, or else assume that the older writers did not recognize them, and it hardly seems possible to suppose that such close observers could see young patients showing cerebral or spinal symptoms, during an attack of syphilis, as often as we do, without connecting the two together. Apart from the question of possibility of change in type in the chancreoid, what other reasons are there for its less frequent occurrence? The extreme predominance numerically, given to it in the earliest statistics, might be perhaps explained by the fact that it had just been discovered, so to speak, and that Riord's and Bassereau's writings called attention to the fact that there was such a lesion as a local, non-syphilitic sore, and consequently everybody was anxious to avail themselves of the new doctrine. In other words, for a certain time, chancreoids were the fashion in the medical world, and very possibly every lesion that did not show marked induration and glandular enlargement in both groins, was recorded as such. Inasmuch as the earlier syphilographers make no mention of herpes progenitalis, and as their treatment was to cauterize all suspected lesions following exposure, it is more than probable that at that time, many crops of herpetic efflorescences may have been diagnosed as chancreoids. There is another, not very uncommon lesion, which may have been mistaken for a chancreoid, as is not unfrequently done at the present time. I refer to an inflamed sebaceous follicle, on the shaft of the penis, which begins as a pustule with an inflammatory areola, and which when the pustule is destroyed leaves a circular, punched-out looking ulcer, which will only require one or two applications of some strong caustic to make it a very good copy of a chancreoid.

There can be no stronger proof that some modification must have taken place in the chancreoid, a lesion which as described, is one most essentially *sui generis*, than the fact that some of our most distinguished syphilographers have gone so far as to deny its individuality, or at least to claim, that a lesion which is identical with it, may result from immediate contagion from, or artificial inoculation with, any pus resulting from inflammatory action.

That pus inoculated will produce a pustule, has been proved, but that healthy, non-septic pus brought in contact with the cutis or a mucous membrane can cause an ulcer resembling the chancreoid, has not, at least in my opinion. When we think of the enormous number of cases where inflammatory pus is brought in contact with the skin of the patient suffering from the inflammation, as in cases of amputation, operations for tumors, abscesses, in short, all surgical operations that do not heal by first intention, in which nothing like a chancreoid is found, and then remember what every practitioner who sees venereal disease must have observed, namely, cases where somewhere in a circular line, drawn on the lower abdomen and inner part of the thighs, a circle of which the penis is the radius, a chancreoid is seen as the result of auto-inoculation from chancreoidal pus flowing from the orifice of the prepuce, we must admit that the chancreoid is a fact, even if not as frequently seen as formerly.

There is one form of venereal lesion of which I have seen a great many examples, to which I

want to refer in this connection, and that is what has been very thoroughly described as the *ulcus exulcerans*, or *elevatum*. The reason that I do refer to it, is, that I have often been in doubt as to its nature, that is, as to whether it belonged to the chancreoids, or true chancres, and have thought that it suggested the "mixed chancre" of Diday. The lesions I refer to are always multiple, situated on the free margin of a long prepuce, suggesting inoculation from a sub-preputial sore, or auto-inoculation from each other, or both. They are not larger, as a rule, than a small pea, raised above the niveau, ulcerated on their summit; with the base of the ulceration like that of a chancreoid. They usually are situated in a fold or wrinkle of the free margin of the prepuce, which fold when the prepuce is retracted as far as the usually accompanying phymosis will allow, is reproduced in the lesion as a split. They do not show any marked induration, but evidence of an indurated sore is apt to be obtained under the prepuce. They are always most obstinate against treatment, although they do not show any decided tendency to increase in size. They almost invariably are followed by secondary symptoms. In the few cases in which I have experimentally used specific constitutional treatment, the duration of the lesion has been somewhat, but not markedly shortened.

In cases where we get evidence of an indurated chancre under the prepuce, of course the consequent secondary symptoms are explained, but what is the nature of the raised lesions at the preputial orifice? Their situation is exactly that which would suggest auto-inoculation, namely, in the folds where the sub-preputial secretions would be retained, and also their position with regard to each other is very suggestive, as they are very apt to be found in pairs which come together in exact apposition. Their situation at the preputial orifice also would suggest the possibility of the daily irritation during the act of micturition, having something to do with their obstinacy against treatment, and also, perhaps, having some influence on their peculiar raised character. Certainly I have never seen typical specimens of the lesion I refer to, except in this locality, although something like them is seen at times as a single lesion, in the sulcus, or on the reflected prepuce. I must confess that I have at times in these cases been tempted to make an exception, and try the use of destructive cauterization, but the fact that an already troublesome inflammatory phymosis would be decidedly aggravated, has deterred me from so doing.

There is one other respect in which I think the chancreoid of the present day differs from that of the past, and that is in its being complicated by a suppurating, or virulent bubo. I will not take time to go into statistics of the past, as I have none of my own to offer, except to quote from Rollet's service at Lyons, where out of 140 cases, 60, or 1 to 2, had virulent buboes. The fact, however, that chancreoids were liable to have this complication, has been universally admitted, in fact it has been made one of the important diagnostic points. Without having any evidence to fall back upon, I should say that in my experience virulent adenitis was not more frequently seen with the chancreoid, than with the true chancre, and I cannot help thinking that this is due in a measure to the fact that irritating the lesion by caustics is at the present time not usually practised. This is, of course, only my opinion, but I have seen some cases

where an acute adenitis followed at once on the use of caustics.

There are, of course, many points of interest with regard to this subject that I have not even touched; all I have attempted to do has been to lay before you some statistics which I had, with a few suggestions resulting from my observation of the cases. These statistics would go to show, what others on the same subject do, that the chancre is decidedly less frequent at present, than it was formerly; and in addition to the reasons I have given that may have had an influence on that change, I must say, in conclusion, that I believe chancroids are less frequent because we have in a great measure ceased manufacturing them, by cauterizing every sore that is not a typical primary lesion.

#### ABSCESS OF THE KIDNEY FROM OBSTRUCTION TO A URETER.<sup>1</sup>

BY JOHN G. BLAKE, M.D.  
*Visiting Physician, Boston City Hospital.*

MR. B. S., thirty-five years old, first came under treatment five years ago for irritation of the bladder, and symptoms suggesting stone. Pain in the region of the left kidney was constant, but not of such a severe character as to draw attention away from the bladder, which seemed to be the seat of the severest pain. The urine, at this time, was examined frequently, and showed the ordinary conditions found in cystitis: pus, some blood, epithelial scales, and mucus. The treatment was directed chiefly to the bladder, and the existence of a renal abscess was not suspected. In three weeks after beginning the treatment, a quantity of dark-green pus, resembling chewed grass, was found in the vessel, mixed with urine, the quantity of pus being estimated at ten ounces. After a few days, the pain in the side subsided, but the vesical irritation continued without much relief. Permission for an examination under ether was at last obtained, and the bladder carefully sounded, but no stone could be detected. The general condition, however, improved a good deal, and he passed from under my care to resume business.

Six months after I received a note from him, inviting me to call at the Massachusetts General Hospital. He had been again under treatment, and had been examined by Dr. Bigelow, who found a stone, crushed, and removed it. It may here be stated that, three years before this, the patient was attended by a member of this Society, for what proved to be an abscess of the kidney, which ran its course without giving rise to severe constitutional symptoms. At least, this was the patient's statement.

The present attack began February 20, 1887. Since the termination of the illness attending the removal of the stone, Mr. B. had been quite well, and attending to business that necessitated much railroad travel. It was to exposure to cold during one of his frequent trips, that he attributed his last illness. Pain in the side, extending down toward the groin, and resembling that of an attack of gravel, was the first symptom. Local treatment relieved this somewhat, but never wholly. The urine showed no sign of either gravel or pus. Day after day, the pain continued, with a ris-

ing temperature and pulse, and constantly requiring the free use of morphia subcutaneously. On the seventh day he had a chill. There was no doubt about the diagnosis, and the treatment aimed at saving strength and pain until the abscess should evacuate through the ureter and bladder, as it had done twice before. After twelve days, the symptoms began to look more serious, and surgical counsel was sought, with a view to interference, if it were deemed advisable. Dr. Gay examined the case, but decided not to operate, the external evidences of the presence of pus, and the uncertainty of the result making this course, in his opinion, the safest. The favorable termination of the previous attacks justified this conclusion, and held out reasonable hope of a spontaneous cure.

The following day, severe pain, extending toward the nipple, and attended by difficult and gasping breathing, was complained of. It was evident that inflammatory action was progressing upward, and percussion and auscultation gave signs of lung invasion and effusion. From this time, the patient began to sink rapidly. Dr. Cabot saw him next morning, but too late to attempt an operation, even if it had been considered advisable. He died in the afternoon. This is the outline of the case in brief, omitting all details, which are not of necessity. It is reported chiefly for the purpose of bringing before the Society the subject of surgery of the kidney, and the question of operation in cases of like character. It was of special interest to me from the fact that I had, at the same time, two cases of chronic pyelitis under my care at the City Hospital, which did not improve under medical treatment.

As the autopsy showed, there was no possibility of a successful operation in the case. At the same time, the conditions found were of such an unusual character as to be seldom met with. I shall not presume to discuss the surgical aspect, leaving that to others better qualified, but shall be glad to hear the sense of the Society on the general question, as a guide for the future. It may not be out of place to state that the subject of the removal of the kidney was discussed with the patient and his relatives during the early stages of the disease, and would have been agreed to had the present attack terminated favorably. The obstruction of the ureter, found at the autopsy, was suspected as the probable cause of the abscess not emptying, but could not be demonstrated during life. The uncertainty of the duration of the abscess of the kidney before finding an outlet into the surrounding parts, together with the poor success generally attending surgical interference, were considered additional reasons for not operating.

So far as I can learn from conversation with surgeons, the surgical treatment for abscess and kindred affections of the kidney, and the removal of that organ, have not been attended with a degree of success, in this community, which would encourage such methods. Still, these operations have very frequently been performed successfully in other places, and I am not willing to admit that we are wanting either in the skill or the means to obtain equally good results. Larger experience in this, as in other fields, will undoubtedly lead to improved results; and, although the cases are comparatively rare, a sufficient number will come to us to furnish an improvement in statistics, and to stimulate us to more frequent operations.

<sup>1</sup> Read at the Boston Society for Medical Improvement, April 25, 1887.

## RECORD OF AUTOPSY.

by Dr. W. W. Gannett, March 11, 1887, 10.30 A. M.  
Body medium size, well developed, considerably emaciated.

The pericardium contained about 30 cc. slightly cloudy fluid. Both pericardial surfaces covered with a thin, recent, fibrinous false membrane.

The heart showed nothing remarkable as to size, valves, cavities, or muscular substance. The left pleural cavity contained, by estimate, two litres of pus, having a very marked odor of sulphuretted hydrogen. Both pleural surfaces of the left side covered by thick, grayish, shreddy, fibrinous false membranes. The left lung was about the size of the double fist, dense, non-aerated, showing, on section, a dark-red, flesh-like appearance. The right pleural cavity and right lung not remarkable.

Spleen showed nothing unusual.

The urinary tract showed the following appearances: For a distance of one cm. (half-an-inch) above the bladder, the left ureter was of the normal size. Just above this point, was firmly impacted an oblong calculus, about the size of a plum. The ureter, at this point and upwards to the pelvis of the left kidney, was represented by a slightly tortuous tube, three cm. (one-and-one-fourth inches) in diameter. (The ureter, when opened and flattened, measured nine cm. transversely.) This was distended with thin pus. The pelvis of the left kidney was represented by a sac, the size of the fist, distended with thin pus. On section of the left kidney, the calyces were found to be much enlarged, there remaining a layer of renal substance not more than 1.5 cm. in width. The mucosa of calyces showed several grayish-black, circumscribed, shreddy areas, where there was a loss of substance.

In the upper portion of the kidney was a fistulous track, extending from one of the dilated calyces, through the renal substance, to a cavity outside the kidney, to be presently described. The fistula had a diameter of two or three millimeters (one-eighth-inch), the edges being softened, grayish, shreddy, renal tissue. Behind the upper half of the left kidney, occupying the situation of the perinephritic tissue, was a cavity, the size of the fist, with grayish-black, shreddy walls, and filled with a foul-smelling pus. Extending from this cavity upward, through an opening in the cavity, the pus had infiltrated the connective tissue lying to the left of the vertebral column, behind the stomach and pancreas, and reaching the diaphragm. At a point in the diaphragm, a little to the left of the median line, in the posterior third, the tissue was softened, thinned, ragged, with an opening large enough to admit the tip of the little finger. This served as a direct communication between the abscess-cavity below, and the pleural-cavity above.

There was nowhere evidence of peritonitis.

The bladder and right ureter showed no abnormal appearances.

The right kidney was enlarged about one-third, showing, on section, the usual ratio between cortical and pyramidal portions. The renal substance not remarkable.

The gastro-intestinal tract, liver, and aorta showed no appearances worthy of especial note.

**Diagnosis.** Acute fibrinous pericarditis; acute gangrenous pleurisy, with purulent exudation; carnification of left lung; hydro-pyo-nephrosis; circumscribed

necrosis of left kidney, with fistula; calculus in left ureter; dilatation of left ureter; suppurative perinephritis; suppurative inflammation of tissues along vertebral column; circumscribed necrosis of diaphragm, with perforation; compensatory hypertrophy of right kidney.

**Sequence of events, as shown by the autopsy.** Obstruction of left ureter by a calculus, leading to dilatation of ureter above, and pelvis of kidney and calyces, with atrophy of kidney; suppurative process in pelvis of kidney; necrosis of mucosa of calyces and of kidney, leading to perforation of kidney and discharge of pus into perinephritic tissue; perinephritic abscess; extension upwards to diaphragm; perforation of diaphragm; gangrenous pleurisy; death.

## Clinical Memorandum.

## TRANSMISSION OF SCARLATINA BY DISINFECTED CLOTHING.

BY JAMES B. FIELD, M.D., LOWELL, MASS.

On February 3d, Winnie W., aged ten, was taken sick with scarlatina. For many weeks previous there had been no cases of scarlatina in the section of the city in which she resided, and but few cases in the entire city.

On February 5th, 6th, and 8th, three younger sisters were attacked with the disease, taking it, in all probability, from the same source as did Winnie.

The fifth and remaining daughter was severely sick with scarlatina a year ago while in another city. Upon the cessation of desquamation her clothing and that of her mother were thoroughly disinfected, under a physician's direction, by exposure to sulphur fumes and by prolonged boiling.

The trunk containing this clothing arrived in Lowell ten days before Winnie, the patient first mentioned, was taken sick. Upon opening the trunk all the children played with the clothing, dressing up in their mother's and sister's garments.

Although some unrecognized source of contagion is possible, the fact that four children were taken sick with scarlatina at intervals of from ten to fifteen days after exposure to this disinfected clothing, would seem to show that the ordinary methods of disinfection are not always safeguards against contagion.

## Reports of Societies.

## PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

APRIL 9, 1887, the President, DR. WILLIAM L. RICHARDSON, in the chair.

DR. C. P. STRONG read a paper on

DYSTOCIA CAUSED BY TONIC ANNULAR CONTRACTION OF THE UTERUS.<sup>1</sup>

DR. EDWARD RETNOLDS, present by invitation, asked if a distinction should not be made between the cases in which a spasmodic annular or hour-glass

<sup>1</sup> See page 543 of this number of the Journal.

constriction occurred, and those in which the true contraction ring of Bandl was found. The one being due to an excessive action of the circular fibres in some one zone of the uterus, and, therefore, having necessarily a tendency to clasp the uterine contents as a constricting ring; while the other is formed by the retraction of the upper uterine segment and its consequent excess of thickness over the lower segment, is entirely independent of the circular fibres, and, in its most typical form has no tendency to annular constriction.

DR. GREEN said that normally the fetal head in first pregnancies should descend and occupy the true pelvis in the last week or ten days of gestation. When this descent does not take place, the reason is usually to be found in some pelvic and cranial disproportion, however slight, or in an unfavorable fetal position. When the occiput is posterior the head often fails to descend before labor begins, owing to the fact that the biparietal diameter does not readily pass through that chord of the pelvis which subtends the sacro-iliac arch, this chord being less than either of the oblique diameters through which the biparietal passes in anterior positions. When, therefore, in first labors the head is not found in the pelvis, he believed that the cause of the non-descent should be early sought for and appropriate treatment decided upon before long-continued and futile efforts of the uterus have resulted in a condition of inertia or in the formation of a firm "contraction-ring" with corresponding thinning of the lower uterine segment, which latter condition makes subsequent operative procedures more difficult and dangerous.

When the position of the occiput is anterior, unless the relative disproportion is more than slight, the force of the uterine contractions is usually sufficient to drive the well-flexed head into the pelvis; but in occipito-posterior positions, owing to the reason above alluded to, proper engagement and descent often do not take place: either the head rests on the superior strait in a condition of non-flexion and no progress is made, or the head becomes extended, the brow dips down into the pelvis, giving the appearance of progress, while, however, the larger diameters of the head remain above the brim. In this state of affairs, unless the relative disproportion is more than slight, he would endeavor, with one hand in the vagina and the other on the mother's abdomen, to change the fetus into an anterior position; then, if successful in the manoeuvre, would rupture the membranes, give the uterus time to drive the head into pelvis, and then if necessary deliver with forceps. If, on the other hand, this change of position should prove impossible, or if the pelvic contraction is marked, he would perform podalic version early, while this operation is easy and safe.

If, unfortunately, the case is seen late, after a well-marked "contraction-ring" has formed, version is often a difficult and hazardous operation, and the high forceps operation is scarcely less so: under these circumstances each case must be considered by itself, whether either version or forceps is justifiable, or whether craniotomy should not be performed in the interest of the mother. If the child is dead, the decision of this question is easy.

When after long and futile efforts the uterus has passed into a tonic state and the contraction-ring tightly grasps the fetus, the difficulties and dangers are greatly increased; and it is wise to resort to

surgical anæsthesia, sufficiently prolonged to relax the spasmodic condition of the uterus, before undertaking any operative measure. The speaker's experience with the difficulties of this class of cases had led him to believe strongly in early interference when in primiparae the head had not engaged before the advent of labor, and in multiparae when a few hours of good pains did not drive the head out the pelvis.

DR. EDWARD REYNOLDS reported, by invitation, the following

#### CASE OF PLACENTA PRÆVIA.

I delivered yesterday a case of placenta prævia which may be of interest to the Society.

The patient was a primipara and was within a few days of the expected date of delivery, when on rising from bed at 7 A. M. yesterday she found herself flowing; the hemorrhage lasted some minutes and was described as profuse. Though it left her faint and dizzy, she still kept about on her feet, but fortunately sent at once for medical aid. Her attendant arrived just as she was attacked by a second hemorrhage, in which she lost about 8-10 $\frac{1}{2}$  of blood. He at once put her to bed and the hemorrhage soon stopped, a mere trickle of blood continuing to escape from the vagina.

I was then sent for, and arrived at 9.45 A.M., when her condition was as follows: Labor pains present, weak but regular. Position O. R. A. Fetal heart not heard. Os about the size of a five-cent piece, soft, and completely covered by the placenta, which was implanted to the left, but extended on the right to about an inch beyond the margin of the os. A slight but steady hemorrhage was going on. The pulse, though weak, was only 96, but the lips were blanched, the respiration was quick and sighing, and the patient was restless and uneasy.

As nothing was in readiness for an operation and as she was still losing some blood, I tamponed her while the necessary preparations were being made.

At 10 A.M. she was etherized and the tampon removed; by this time she was noticeably weaker and was jactitating, though, so far as could be seen, no further loss of blood had occurred. The os had enlarged to about the size of a twenty-five-cent piece, and was so soft, that after separating the placenta for about an inch beyond its margin, it was dilated manually in about five minutes, to a size which permitted the passage of the hand. A foot lay just above the os and the child was turned with extreme ease. The separated portion of the placenta was now prolapsed through the cervix and with the half-breech was tightly clasped by it. A finger passed along the child's belly found the cord pulseless (the heart had not been heard) and as all hemorrhage had now ceased, I decided to wait for further dilatation before delivering.

The patient was allowed to recover partly from her ether, and the pains returned. For twenty minutes the pulse was carefully watched and the breech kept closely applied to the lower uterine segment by gentle steady traction on the foot. Then the os having become fully dilated, the ether was again carried to surgical anæsthesia, and a female child was slowly extracted. No hemorrhage followed, but though the uterus was very firmly contracted, efforts at expression by Crêde's method failed to dislodge the placenta, though steadily persisted in for five minutes, when, fearing that hemorrhage might occur, I introduced

the hand and was surprised to find that the upper part of the placenta was so firmly adherent that it was separated with great difficulty, several pieces tearing away and rendering it necessary to re-introduce the hand several times before the last shreds could be detached. About one-third of the placenta was detached, one-third normal, and one-third adherent.

During delivery the pulse never exceeded 120, there was no post-partum hæmorrhage, and on recovery from the ether it fell to 104. Half an hour later it was unchanged, and I left the woman conscious and in very fair condition. All went well for two hours, when a severe collapse occurred and I was again called. For some minutes the pulse had been very rapid and almost imperceptible, but the uterus had never relaxed, no hæmorrhage had taken place, and a reaction had set in before my arrival. Under the free use of stimulants she rapidly improved, and when I last saw her, an hour ago, was in very good condition.<sup>2</sup>

In the management of the case, the policy of version through an imperfectly dilated os, and subsequent slow extraction was chosen, because, as the child was dead, and the mother so much exhausted that any further loss of blood, whether ante-partum or post-partum and however slight, was of grave importance; it seemed to be the wisest course to turn at the earliest possible moment, without attempting complete dilatation, and then to delay long enough to permit dilatation and retraction to occur naturally before emptying the uterus; in the fear that rapid evacuation might bring on a perhaps fatal post-partum hæmorrhage or collapse.

DR. SINCLAIR said he disbelieved in emptying any uterus too rapidly: there was less likely to be post-partum hæmorrhage by delivering slowly.

DR. E. REYNOLDS said that he adopted this policy of slow extraction after version; first, because it has been highly recommended by high authorities in Germany for all serious cases of placenta prævia, even during the life of the child; and, secondly, because both the dicta of authority and his own observations have led him to believe that rapid evacuation of the uterus, not only favors post-partum hæmorrhage, but is in itself an efficient cause of immediate surgical shock, and that it was therefore a thing to be avoided in a case where the child was dead and the mother already much collapsed, provided that the danger of further ante-partum hæmorrhage was carefully guarded against by steady, gentle traction upon the foot, and by keeping a close watch upon the pulse. The result was certainly most happy in this case.

— A free dispensary has been established in a central location at Newport, R. I., through the efforts of the Guild of St. Luke, a society of medical gentlemen and clergymen, founded about a year ago.

— The uncomfortable habit which prevails in some half-civilized countries of making the doctor swallow his own medicine, to prove that it is innocuous, received a most tragic illustration recently in the Argentine Republic, where a physician was murdered by peasants because he refused to drink from a bottle of carbolic acid, which he used for purposes of disinfection.

<sup>2</sup>The further history of the case has been that of rapid and complete recovery.

# BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

APRIL 25, 1887. The President, DR. O. F. WADSWORTH, in the chair.

DR. JOHN G. BLAKE read a paper upon

ABSCESS OF THE KIDNEY FROM OBSTRUCTION TO A URETER,<sup>1</sup>

and showed the specimen from the case upon which it was based.

DR. A. T. CABOT said that the position of the calculus so deep in the pelvis, and its firm impaction in the ureter, would have made its removal through a lumbar incision practically impossible, even could it have been detected.

Possibly earlier in the history of the case it would have been found nearer the pelvis of the kidney, and might then have been successfully removed. It also could not have been reached from the side of the bladder. The speaker had operated on three cases of obstructed ureter. The first patient was a boy with hydronephrosis in which the sac was drained, and he got entirely well.

The second was a young man with long-standing disease of the urinary tract, whose urine contained a large quantity of pus. One kidney swelled up, and an opening was made into what was thought to be the pelvis, and considerable pus was evacuated, with some relief. He lived some months, and when he finally died an examination showed that the cavity which had been drained was a tuberculous abscess of the cortex of the kidney.

The third patient was a young woman with a tumor in the left side of the abdomen, which could be moved from the edge of the pelvis to beneath the ribs. Her urine contained pus intermittently, and the diagnosis of pyonephrosis of a movable kidney was made.

An incision was made in the loin, the kidney was secured to the edges of the wound and then incised; a considerable quantity of pus being evacuated. The cavity steadily closed and the amount of pus diminished until it almost wholly ceased. The opening had so nearly closed that a probe would only enter for half an inch, and she was allowed to leave the hospital, but soon returned with a fresh access of inflammation, the result apparently of want of cleanliness. The sinus after this did not show any tendency to heal.

Several months later she was again seen with commencing Pott's disease for which a brace was fitted. When last seen she was looking well, but the sinus was still discharging.

The appearance of spinal caries in this case suggested the idea that the kidney might also be tuberculous.

DR. E. S. WOOD said that it is by no means uncommon for the pain of pyelitis to be referred to the bladder.

DR. JOHN HOMANS said that his experience in operations upon the kidneys has been limited and fatal. He then proceeded to give the history of his cases. One was a feeble woman who had been suffering for six or seven years from a renal abscess. An incision was made into the abscess, anteriorly through the peritoneum, several calculi were removed and the wound was drained. She improved for a time but finally died. No autopsy was allowed.

<sup>1</sup> See page 549 of the Journal.

His next case was a renal tumor which was sometimes small and sometimes large, according as pus was present in the wound in large quantities, or was absent. He was at first unable to make a diagnosis, and as the patient did not get better, sent her to the Massachusetts General Hospital, where he cut down in the loin upon the kidney, giving exit to a pint or more of green pus mixed with much mucous. The patient was taken home by her friends in a few days, thereby hastening the fatal result, which was probably inevitable.

Another case was one of very painful cystitis and pyelitis, sent to him by Dr. Baker, who had previously opened the floor of the bladder without much benefit. Pus evidently existed in the right kidney, and Dr. Homans incised and drained it, with much relief. There were no calculi. Death followed in four or five months.

He had extirpated a sarcomatous kidney, but suppression of urine occurred in the other kidney, and the patient died in forty-eight hours, not having secreted more than an ounce of urine after the operation. Another large suppurating kidney, supposed to be sarcomatous, he had also removed. This case was likewise followed by suppression of urine and death.

DR. E. H. BRADFORD said that he had had but little experience in the surgery of the kidney. He had operated upon a child with hydronephrosis, in which case an exact diagnosis had not been made. There was a cyst of the kidney or of the kidney and ureter. He had made an incision into the cavity and washed it out. The wound healed without suppuration. He had also operated twice upon adults. The first case was of surgical interest. There was a tubercular abscess of the kidney in a man of thirty-five. This was incised without difficulty and the symptoms were relieved, but the patient died in a few weeks. He had had hip disease as a child, but had recovered. Autopsy showed acetabular disease and an abscess cavity, but the pelvis had apparently recovered. A large indurated mass extended from the acetabulum to near the kidney. The kidney was tuberculous with the tissues about it inflamed. The peritoneum was also inflamed.

The other case was somewhat like one of those of Dr. Homans. He had drained the bladder and afterward opened the kidney. The patient died in four months.

There had been a few other cases at the City Hospital. Dr. Burrell had operated successfully for a calculus in the pelvis of the kidney. The calculus was not found, but the patient recovered. Dr. Gay had also some cases, but of these the speaker did not remember the particulars.

In New York these operations had been quite fatal in the last five years, but if the statistics for a longer time were selected they would probably be better. The English and German results are very encouraging.

DR. R. H. FITZ remarked that the history of the case indicated a pyonephrosis secondary to a hydronephrosis. It seemed probable that the evacuation of the pus, several years ago, was due to the passage of a calculus into the bladder, and not to the rupture of a renal abscess into the pelvis or ureter. The vesical calculus subsequently crushed was likely to have been this dislodged stone.

The final attacks of suppurative inflammation apparently occurred in the urinary tract which had become

gradually dilated to so unusual an extent by a second, obstructing calculus. The communication between the pleural cavity and the dilated renal pelvis was one of the results to be anticipated in the course of a pyonephrosis. Though less frequent than the formations of fistula opening into the intestine, it was, perhaps, more to be feared.

The results of the post-mortem examination suggested that a lumbar incision, with the establishment of drainage, would have obviated the impending danger, although it might not have permitted the extraction of the calculus. The position of the latter indicated the importance of a rectal examination in all cases of suspected abscess of the kidney, although the results of such an examination would usually prove negative.

DR. HAMILTON OSGOOD asked that some surgeon present would be kind enough to say whether there exist reasons against the removal of a suppurating kidney, which do not hold in cases of cancerous kidney; and whether locality or climate have any presumable connection with fatality in surgery of the kidney? The questions, he said, were suggested by the admirable results in a case which he saw at the hands of Krönlein in Zürich, who removed a sarcomatous kidney from a woman. Six weeks after the operation the patient was in robust health.

DR. BRADFORD said that as no one else seemed inclined to answer Dr. Osgood's question, he would say that he thought the reason for a larger percentage of successes in other places, is the fact of a greater number of operations. When one has operated sufficiently often he expects to get some successes.

DR. HOMANS said that it is a dangerous thing to assume that a difference of climate makes a difference in successes. The difference is in operators, in knowledge, skill, and care. If any one can remove the kidney without failures he is willing to own that he is a better surgeon than is Dr. Homans. He does, however, believe that some foreigners have a stolidity not found in Americans, which enables them to bear severe operations. To Dr. Osgood's other question, he said that he believed that the statistics were rather more favorable for the removal of a suppurating than for that of a cancerous kidney.

DR. CABOT said that a non-suppurating kidney is more easily removed, that a kidney that has been first drained is more easily removed at a second operation; that is, that a small thick wall is more easily and safely taken out than a large thin one. It is not so likely to rupture.

DR. OSGOOD remarked that it was only fairness to American surgeons and their material, to say that there does indeed exist a wide difference between Americans and Germans, at any rate, in physical stolidity.

For example, he saw Czerny of Heidelberg, amputate nearly one-third of the stomach at the pyloric extremity. Four days later, the patient, a man, was quite cheerful, was drinking his wine, and Czerny seemed very hopeful about the case.

In Schwalbach, in particular, Dr. Osgood had observed remarkable differences between American and German women. The latter were able to drink their five to eight full glasses daily of the Weinbrunnen water, which is very strong in iron and carbonic-acid gas, while the American women, who were under his care, could not safely drink more than one-third of this amount.

The same peculiar difference was seen in their respective ability to endure baths — the German women remaining in the powerful water fifteen to thirty minutes. If the Americans took baths of more than six to eight minutes in duration, flushing of the face and intense headache with functional disturbance of the heart were the result.

American women who have frequently been abroad learn that it is wiser for them, in case of need, to consult an American, or English, rather than a German physician, finding themselves unable to cope with medical treatment which German women bear with impunity. The difference probably lies in a far more sensitive nerve-tissue on the part of the Americans.

#### DRAINAGE OF ABDOMEN IN TUBERCULAR PERITONITIS.

DR. HOMANS mentioned a case of supposed ovarian disease in which on opening the abdomen, the peritoneal cavity proved to be filled with fluid and the peritoneum itself, studded with tubercle, as was shown by the microscope, a piece being removed for the purpose. The fluid was removed and the wound closed. The patient made a good recovery, after long drainage (eight months) and is now fat and healthy. Another case, supposed to be ovarian cyst, or a cyst of the broad ligament in a seemingly healthy girl of seventeen, who had a fat abdomen, proved to be tubercular peritonitis, with ascites. One Fallopian tube and one ovary which were thickened, were removed, together with bloody serum. The peritoneum was dried as thoroughly as possible, and a glass drainage-tube introduced. The patient recovered and now looks well.

DR. HENRY I. BOWDITCH said that the two cases of tubercular peritonitis related by Dr. Homans, in which improvement took place after laparotomy and antiseptic washing of the peritoneum, reminded him of a similar case related to him by the operator only a few days ago. When the peritoneum was opened it was found studded with miliary granulating tubercles. The microscope revealed the presence of numerous bacilli in a small piece taken for examination. The patient now calls herself well, and has gained several pounds of flesh, and is travelling in Europe.

A question Dr. Bowditch would ask, under the light of these three cases, is whether modern antiseptic abdominal surgery may not ere long decide that in cases of so-called tubercular peritonitis in childhood, hitherto deemed incurable, laparotomy and antiseptic washing of the peritoneum must be performed, or the physician will fail of his duty.

DR. CABOT referred to a case of tubercular peritonitis in a colored girl of nineteen or twenty, transferred to him at the Massachusetts General Hospital. It was supposed that she might have ovarian cyst. Circumscribed fluctuation could be made out. On opening the sac-wall by a cut eleven inches long, the case was found to be encysted tubercular peritonitis. A drainage-tube was used with iodoform and the patient has done well. There is still discharge through a sinus.

DR. E. N. WHITTIER said, the large female ward at the Massachusetts General Hospital was fruitful in abdominal tuberculosis, for in addition to the case cited by Dr. Cabot, transferred to him for surgical treatment, there was that of Caroline Morgan. This young woman entered in June, and on the 22d of July, was tapped, and 106 f3, highly albuminous

fluid were removed from peritoneal cavity. In September, 136 f3 were removed, containing two per cent. albumen; in October, 172 f3; and the fluid re-accumulating in the latter part of the same month, he made an opening in the median line, in the usual place for tapping, and inserted a large soft-rubber drainage tube, and connected this by a smaller tube with a pail partly filled with carbolized water, under the bed. The peritoneal cavity never refilled, and the patient was discharged on the 27th of November, 1886.<sup>2</sup>

#### THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

##### NINTH ANNUAL CONGRESS.

The ninth annual meeting of the Association was held in the hall of the Academy of Medicine, New York, May 26, 27, and 28, 1887. The President, DR. E. FLETCHER INGALLS, of Chicago, occupied the chair.

##### THURSDAY. — MORNING SESSION.

The meeting was opened by the delivery of the

##### PRESIDENT'S ADDRESS.

He referred to

##### INTUBATION OF THE LARYNX.

The history of the operation, and a description of the instruments used in the operation, were given. The method of operation was then referred to. In 1858, an attempt was made, in Paris, to treat stenosis by intubation. Seven cases were operated on, and of these, five died, and two cases recovered, after subsequent tracheotomy. In 1880 O'Dwyer introduced intubation, and gave to the profession one of the most useful operations of modern times. In the after-treatment, while the tube is in position, no liquids should be allowed. Sometimes small quantities of liquid can be taken, but the danger of exciting bronchitis or pneumonia is so great, that fluid should be entirely prohibited. The largest tube that can be introduced is the one most likely to be retained. The danger of the tube being forced into the trachea was referred to. In four or six days, in favorable cases, the swelling and false membrane will have so much diminished that the tube will be coughed up finally, and need not be re-introduced.

The speaker had performed intubation in twelve cases of diphtheritic laryngitis. In three cases, recovery followed. By a coincidence, the cases of recovery were the only ones in which the author had charge of the after-treatment. One case lived eight days, and then died suddenly an hour after the tube had been removed. Another lived eight days, and then died of pneumonia. Details of the cases treated were given. As a result of his experience, he concludes that the treatment after intubation should be: (1) Prohibition of fluids, except by enemata. (2) Some preparation of mercury should be given in large and frequent doses. (3) In case of development of bronchitis and pneumonia, respiratory and cardiac stimulants should be given freely, but cautiously.

<sup>2</sup> I examined this patient on the 29th of April, 1887. There exists to-day no evidence of any abdominal disease. The rational and physical signs were those of tuberculous peritonitis; and this statement is made as a contribution to the opinion that is gaining ground, that there is in permanent drainage of the peritoneal cavity, in uncomplicated tuberculous peritonitis, a method of treatment productive of satisfactory and permanent good results. E. N. W.

By correspondence and study of the literature, he had collected 514 cases, with 134 recoveries. The percentage of recoveries will be greater when more care is exercised in the use of fluids. When medicines fail, no time should be lost in providing for the free entrance of air, either by intubation or tracheotomy. Intubation can be done more quickly, more safely, with less shock to the patient, and less objection on the part of the parents. The operator should be prepared to open the trachea if loosened membrane should be forced down into the trachea. When the tube fails to relieve dyspnea, tracheotomy should be performed, unless there is reason to believe that the latter operation will fail. Where membrane is loose in the trachea, no time should be lost in the use of forceps, which rarely succeed, but tracheotomy should be resorted to. The results obtained by intubation are about as good as tracheotomy at all ages, but apparently better in young children.

#### A STUDY OF SOME OF THE OBJECTIONABLE FEATURES OF INTUBATION,

by CHARLES E. SAJOUS, M.D., of Philadelphia.

At present, statistics favor the operation of tracheotomy, but the author believed that intubation would prove the better operation when the mechanical defects are overcome. The principal objections, according to the degree of danger, are: (1) The tendency to the obstruction of the tube by fragments of membrane. (2) Crowding down of loose membrane during introduction of the tube. (3) Passage of food into the trachea. (4) Momentary arrest of respiration during introduction of tube. (5) Liability of the tube to be coughed out. (6) Slipping of tube into the trachea. The tendency to obstruction was attributed to the limited diameter of the tube; the crowding down of membrane to the length of the tube; the passage of fluid to the weight of the tube; the liability to be coughed out to the limited diameter of the tube; and the slipping of the tube to the weight of the instrument and the formation of the head.

The speaker exhibited instruments on the principle of the bivalve speculum, which were intended to embody the suggestions made above. This tube obstructs the larynx very little, leaving the breathing space almost as great as normal. The author also exhibited an instrument intended to remove loose membrane from the larynx. The instrument consisted of forceps, which could be protruded into the larynx, by an arrangement in the handle, the required distance, and the membrane grasped.

#### DISCUSSION.

DR. F. H. HOOPER, of Boston. I have had no personal experience with the operation, but I have watched certain cases in the Boston City Hospital since last October. Ten cases of intubation have been operated on, with two recoveries. In one case, the attempt to introduce the tube caused spasm, and tracheotomy was performed. In every case, there was immediate relief to dyspnea. In three cases, the tube was coughed up and swallowed.

DR. D. BRYSON DELAVAN, of New York. An interesting question is with reference of feeding. It has been suggested that feeding with a tube introduced into the œsophagus would overcome the difficulty. I think this is worthy of consideration. This plan can also be used in cases of tracheotomy.

DR. MORRIS J. ASCH, of New York. There are a few objections which should be brought to the notice of the profession. One of these is that membrane may be crowded down which is very difficult to remove, even by tracheotomy. Another objection is the difficulty experienced by the ordinary practitioner in the removal of the tube.

DR. B. F. WESTBROOK, of Brooklyn. I do not think that the weight of the tube is what causes the trouble in deglutition, for the muscles which elevate the larynx are quite strong. It seems to me more likely that the difficulty is due to the rigid tube, which holds the larynx open. In normal deglutition, the entrance of the larynx is closed.

DR. S. H. CHAPMAN, of New Haven. One of the most distressing symptoms after the introduction of the tube seems to be thirst. It would be interesting to study the cause of this. Could it not be relieved by the use of enemata and by baths? It may be occasioned by the use of the mercury, which might be introduced in some other way than by the mouth. The use of pilocarpine, which, even in small doses, causes salivation, might be of service.

DR. E. FLETCHER INGALLS, of Chicago. It is so rare that the tube becomes clogged, that it is not necessary to have a skilled attendant. When the tube becomes clogged, it is usually coughed up, and, as a rule, it is not necessary to replace it for two or three hours. The attempt to feed these patients through a tube introduced into the œsophagus has been tried in Chicago, but I have not heard any stress laid on this measure.

#### DESCRIPTION OF A MODIFIED LARYNGECTOMY,

by J. SOLIS COHEN, M.D., of Philadelphia.

The operation is applicable to those cases in which the disease is not too extensive, and has the advantage over complete laryngectomy of leaving the greater portion of the thyroid cartilages undisturbed while the respiratory portion of the larynx is removed. On the cadaver, the operation can be performed in two minutes. In disease limited to the interior of the respiratory tube, especially carcinomatous disease, it fulfills every indication that prompted complete laryngectomy. The advantages claimed for the operation were: (1) Rapidity, ease, and comparative safety for the patient. (2) The small size of the wound. (3) The preservation of the attachment of various important muscles and ligaments. (4) The retention of important structures in their normal relation. (5) A firm, natural support is left for the application of any artificial apparatus. The operation should be performed for complete laryngectomy when not precluded by the extent of the disease.

#### THE PRESENTATION OF INSTRUMENTS

was next in order.

DR. T. A. DE BLOIS, of Boston, exhibited a portable apparatus for compressing air.

DR. E. C. MORGAN, of Washington, presented a universal powder-blower, which could be used in diseases of the nose, throat, vagina, or rectum.

DR. ALLEN, of New York, exhibited an improved form of snare, which could be used with one hand.

The following were appointed as the nominating committee: Drs. Beverly Robinson, of New York, W. C. Glasgow, of St. Louis, and S. H. Chapman, of New Haven. Adjournment of morning session.

## AFTERNOON SESSION.

## THE PATHOLOGICAL NASAL REFLEX. — AN HISTORICAL STUDY.

by JOHN N. MACKENZIE, M.D., of Baltimore.

The fact is established beyond doubt that a causal relation exists between diseases of the nasal mucous membrane and other portions of the respiratory tract and many conditions of distant parts of the body. Hay fever can be traced to the time of Galen. The fact that tickling the nose would arrest hiccough is referred to by Plato. The irritating effects of the odor of flowers was recognized in very early times. Reference was made to the observations of various individuals in regard to reflex conditions due to nasal disease. During the eighteenth century much was written upon this subject.

## HAY FEVER: ANALYSIS OF CASES, WITH RESULTS OF TREATMENT.

by JOHN O. ROE, M.D., of Rochester.

Up to the last hay fever season, the author had treated forty-two cases. A study of these cases tended to confirm the opinions expressed in February, 1883. Some of these views have been modified. Of the forty-two cases twenty-six were males and sixteen females. The attacks came on between May 1st and August 1st. In all, the active symptoms subsided soon after the appearance of frost. In some cases the hay fever dated from a severe attack of cold. In every instance there was disease of the nasal passages. The location of the sensitive areas is not constant, but they are usually most marked over the areas of greatest hypertrophy. The areas have not been confined to the posterior portion of the turbinated bone, nor especially to the anterior portion of the turbinated bones. In the majority of cases the septum was as sensitive as the turbinated bones. Thirty-one patients suffered with asthma. But twelve patients had a distinctly nervous temperament while nine were distinctly phlegmatic.

The plan of treatment adopted is to restore the nasal passages to as near as possible a normal condition and destroy the sensitive areas. These areas are to be destroyed by cauterization. Deep cauterization has been most effective, while superficial cauterization had no marked effect. The condition of the larynx, pharynx and bronchi must not be overlooked. Not infrequently enlarged tonsils will keep up irritation in the turbinated bones. A neglect to cure a bronchitis may account for the return of the disease.

Thirty-five of these cases have practically been cured, seventeen have remained exempt for periods varying from one to nine years, four were not relieved owing to imperfect treatment, and four have been lost sight of. The following conclusions were presented:

(1) All cases of hay fever have the initiative lesion in a diseased condition of the tissues of the nasal fossa.

(2) All diseases of these tissues induce in the ganglionic centres connected with them an abnormal activity which is reflected to other organs.

(3) The sensitive areas in the nose are not found in any particular portion of the cavity. Nor are there any zones which when irritated produce always the same manifestations.

(4) The direction in which the irritation is reflected is always in the line of least resistance. Irritation in

the same region may be reflected in one direction at one time and in another direction at another time.

(5) The disease in the nose may produce disease in other portions of the respiratory tract which may become independent centres of irritation.

(6) The affection recognized as hay fever is due to local irritations brought in contact with the sensitive areas in the nose.

(7) The affection is not *per se* neurotic, nor is the so-called neurotic condition of the person necessary to render a person susceptible to local irritation applied to the air-passages. It is not necessarily associated with the nervous temperament.

(8) The neurotic condition which is often regarded as the cause of the hay fever, is often the result of the local irritation.

(9) By careful and thorough treatment of the disease of the nasal tissue combined with that of other portions of the respiratory passages below, which have become secondary sources of irritation, we need not fail to cure hay fever.

## DISCUSSION.

DR. C. E. SAJOUS, of Philadelphia. At the last meeting I reported some cases in which the use of the cautery had been only of temporary benefit. I now believe that the failure was due to the fact that the cauterization was only superficial. Since I have employed deep cauterization I have cured the disease.

DR. J. N. MACKENZIE, of Baltimore. I regard hay fever as a neurosis. That it is a disease of the nose producing reflex symptoms, I think is not the fact. Where in hay fever disease of the nose is found, the question arises whether this is primary or secondary, or whether it is only an accidental condition. There is, I think, always some more central cause than the affection of the nose. Where the disease is recent it may possibly be arrested by local treatment, but where the affection is of long standing I do not believe that simple local treatment of the nose will overcome the difficulty. Last summer in treating hay fever I made no application to the nose, and I think that my results were better than ever before. I gave in large doses, zinc, *nox vomica*, quinine and arsenic.

DR. F. I. KNIGHT, of Boston. I would ask if any of the members have had any experience with diversion of nervous influence in any of these cases? In one case coming under my notice the attack was arrested by the patient breaking his leg. Another patient had the attack arrested after consulting a disciple of mind-cure.

DR. W. C. GLASGOW, of St. Louis. I think the evidence shows that hay fever is not a local affection, but that it is a general nervous disturbance. It is difficult to judge of the influence of treatment, for in the same individual the severity of the attack varies from year to year. I believe that constitutional treatment is an important element in the case. Unless the disposition toward the disease can be eradicated I cannot believe that a perfect cure can be attained by the destruction of the mucous membrane of the nose.

DR. F. H. HOOPER, of Boston. I have regarded hay fever as a neurosis and have treated it in the manner spoken of by Dr. Mackenzie. This accomplishes great good, especially in young children. I have at present under treatment a case in which there is hay fever with asthma. Until this gentleman came to me a few weeks ago his nose had not been ex-

amed. I found in the right nostril a sharp ridge running along the septum and coming in contact with the inferior turbinated bone. On the left side was a similar ridge. With this exception there is no special disease of the nose.

DR. J. SOLIS COHEN, of Philadelphia. I think that the views of Dr. Mackenzie are very nearly correct. It has been my experience that poor people rarely become the victims of hay fever. I have always thought that in addition to the neurotic element, codling and high living had something to do with the induction of the affection. Many cases occur in those who are overworked and have resorted to stimulants. These patients are often benefited by rest in the mountain or at the seashore. I have obtained benefit by tonic treatment, modifying the diet and restricting the use of meat. The more we look upon this as a constitutional affection and the less as a local condition the sooner will we get at the truth. A large number of these sufferers have obstruction in the nasal cavities, but many have no such obstruction.

DR. J. O. ROE, of Rochester. I consider hay fever as the reflection of some irritation from the nasal chambers, which irritation is produced by some foreign substance coming in contact with the mucous membrane of the nose. Irritation reflected from other situations to the nasal chambers is not hay fever. I think that Dr. Mackenzie includes some such cases. I have never seen any evidence to show that this was a neurosis.

#### ON THE TREATMENT OF ATROPHIC RHINITIS BY APPLICATIONS OF THE GALVANIC CURRENT,

by D. BRYSON DELAVAN, M.D., of New York.

Some years ago Dr. E. L. Shurly, of Detroit, recommended the use of the galvanic current in the treatment of dry catarrh of the pharynx, and related cases in which benefit had followed its use. He also advocated the same treatment in atrophic rhinitis. The author had tried this method of treatment in certain cases. The positive pole of a constant current battery was applied to the nape of the neck, while the negative pole was applied directly to the mucous membrane by an electrode consisting of a copper-wire around which absorbent cotton is wrapped. The strength of current employed varied from four to seven milliamperes. In more recent cases of the affection the effect is marked, but even in the older cases the method is not without benefit. The author had found this measure useful in these cases, and reported illustrations. The objection to the method is the amount of time which it requires.

#### DISCUSSION.

DR. T. A. DeBLOIS, of Boston. I have had the opportunity of applying this method of treatment in two cases, one of atrophic and the other of hypertrophic rhinitis. In the first case there was almost complete loss of smell and taste. The applications were made three times a week for six months. Both cases were improved.

DR. F. I. KNIGHT, of Boston. I would ask what experience the members have had with the use of plugging of the cavity of the nose? I have used this measure and produced relief of the most distressing symptoms. One side of the nose is thoroughly stopped with a piece of absorbent cotton which is allowed to remain three hours during the morning.

It is then removed and the other side is stopped in the same way for three hours in the afternoon. I have never had the least disagreeable effects from the use of the cotton in this way. The bad odor is greatly lessened.

DR. J. O. ROE, of Rochester. I have used the plugs of cotton, but with no other effect than to set up irritation. I have used with marked benefit the application of a weak solution of nitrate of silver, five or ten grains to the ounce, the parts having previously been cleaned. This applied every other day almost entirely relieved the symptoms.

DR. C. E. SAJOURS, of Philadelphia. The good effect obtained by Dr. Delavan was probably due to the irritating effect of the negative pole. I have used in two cases with absolute relief of the symptoms the application of chromic acid in a solution made by simply allowing the acid to absorb moisture from the air.

#### MYALGIA OF THE PHARYNX AND LARYNX,

by DR. S. H. CHAPMAN, of New Haven.

The speaker called attention to certain peculiar conditions of the muscles of the upper air-passages, which occur oftentimes in malarial disorders, and which on account of their severity are brought to the notice of the specialist. The muscles most likely to be affected are the pectoral, the muscles of deglutition and those of the voice.

#### SENSORY AFFECTION OF THE THROAT,

by DR. F. I. KNIGHT, of Boston.

The principal experience of the author had been with hyperesthesia and paræsthesia. In hyperesthesia, the general condition of the patient is, as a rule, not sufficiently considered. The worst cases are alcoholic subjects and those with digestive disorders. These will often yield to withdrawal of the alcohol and regulation of the diet. Astringents are frequently of service. In the cases of paræsthesia which he had seen there had been a feeling of fulness, pressure, burning, globus hystericus or the sensation of a foreign body in the throat. In these cases there is impairment of the general nervous system. The exciting cause may be some disease of the throat. Fatigue usually exaggerates these sensations. He had never met with paræsthesia of the larynx as the earliest symptom of phthisis, as had been claimed by some observers. The prognosis in most cases of paræsthesia is good if a careful treatment be carried out. The treatment of the neurosis of sensation must be claimed to cure the constitutional vice.

DR. W. C. JARVIS, of New York. I recently saw a man complaining of pain on either side of the tongue which had existed for the past two years. He was suffering from the effects of syphilis, and with the neuralgia of the tongue there was frontal neuralgia and pains in other parts of the body. I have another patient who consults me every five or six months on account of a severe pain in the right anterior pillar of the fauces. He believes that it will terminate in cancer. It will disappear for a week at a time and then return. I believe that in this case the trouble is psychical, and that there is no pathological lesion to account for it.

DR. C. E. SAJOURS, of Philadelphia. I have seen two or three such cases. In one there was follicular pharyngitis, and although the pathological condition was cured the pain remained. The pain seemed worse

in damp weather, and the gentleman had the habit of bathing every morning in cold water. The history of the case seemed to indicate a rheumatic trouble, and such may have been its nature.

DR. W. C. GLASGOW, of St. Louis. Many of these cases, I think, are due to malaria and some to the gouty diathesis. Sometimes the trouble is kept up by a single hyperæsthetic follicle. A reduction of the inflammation will be followed by a subsidence of the neuralgia. Sometimes the source of irritation is found with difficulty. In the rheumatic cases there is usually exacerbation at night. These affections in some cases appear to have a tendency to the induction of melancholia. Adjourned.

(To be continued.)

#### AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.<sup>1</sup>

DR. P. A. MORROW read a paper on

#### IDIOSYNCRASY AS AFFECTING THE SPECIFIC TREATMENT OF SYPHILIS.

The author first refers to the ample justification of the claims of mercury and iodide of potassium to be ranked as "specifics" in the treatment of syphilis. These agents when introduced into the organism directly attack and cause to disappear the organic lesions as well as the functional disorders created by the syphilitic virus. Experience shows, however, that the action of these drugs is by no means constant and infallible. All syphilis are not equally susceptible to this curative action. The definite peculiarities of constitution which are generally included in the term idiosyncrasy, exert a dominant influence in modifying drug action. The therapeutic action of specific remedies is especially subordinated to conditions of aptitude inherent in the individual.

Idiosyncrasy in relation to the action of mercury and iodide of potassium may be manifest in various modes and degrees of intensity: (1) In an abnormal susceptibility to their physiological or toxic effects. (2) In the production of incidental ill effects which may be associated with the drug's physiological action, or may take the place of it, constituting an aberration of the drug's typical mode of action. (3) In an insensibility or failure on the part of the system to respond to the curative action of these drugs.

Various clinical examples were given illustrating the foregoing propositions, particularly cases of idiosyncrasy against the iodide so marked that the local and constitutional disorders caused by the drug surpassed in severity the symptoms of the disease itself. In one case under recent observation ordinary medicinal doses of the iodide repeatedly caused a multiform eruption consisting of pustular, bullous, nodular, and keloidal lesions, attended with the most pronounced symptoms of constitutional "iodism." The specific lesions were much aggravated under its use.

The various expedients which have been recommended to secure tolerance of these drugs by counteracting their ill effects were enumerated in detail, and their comparative value considered.

In conclusion, the author suggested that the practical significance of idiosyncrasy and its bearing upon treatment had not received from specialists the consid-

eration its importance demands. The rules of treatment had been rigorously and mathematically formulated — so many months of mercury, and after a certain date recourse to the iodide of potassium without reference to the immense variance in the constitution and idiosyncrasies of patients, not only in the toleration of those drugs, but in susceptibility to their curative action.

#### OBSERVATIONS ON THE USE OF OIL OF WINTERGREEN IN THE TREATMENT OF GONORRHOEAL RHEUMATISM.

DR. R. W. TAYLOR, of New York, detailed the histories of about twenty cases of gonorrhoeal rheumatism occurring in the Charity Hospital the past year, in which he had given the oil of wintergreen a thorough trial. In about nine of the cases the disease was of that chronic kind, in old or neglected subjects, in whom no treatment could prove of much benefit. In the others the benefit was marked, and most of them after some weeks recovered entirely. The drug was administered in capsules in pretty large doses, varying according to the circumstances. The urethral secretion also became bland under the action of the drug, and disappeared. Other remedies had in most cases been tried with little or no effect.

#### A FEW PRACTICAL OBSERVATIONS ON THE TREATMENT OF LATE NEOPLASMS OF SYPHILIS.

DR. ALGERNON S. GARNETT was the author of the paper, which in his absence, was read by the Secretary. He thought it was an error to give fixed doses, especially in the latter stages of syphilis, without due regard to the nature of the case. He believed in removing neoplasms, slight or grave, and considered no patient safe as long as there was the slightest evidence of the disease. The iodide of potassium or mercury should be pushed in every stage of syphilis as far as it could be borne. If cachexia in the later stage prevented the free use of mercury, tolerance of the drug must be cultivated until the patient could be put under its full influence. Syphilis, he thought, was not a benign disease at all.

The President exhibited a Reverdin instrument which he had modified for the purpose of performing subcutaneous ligation in varicocele in the manner he had described about two years ago.

#### SECOND DAY. — MORNING SESSION.

Dr. Keyes was re-elected President, and Dr. R. W. Taylor, Secretary and Treasurer.

#### ON TEMPORARY OVERSTRAIN OF THE BLADDER PRODUCING CHRONIC RETENTION OF URINE.

DR. F. N. OTIS introduced his subject by defining the usual causes and varieties of atony of the bladder. It was stated, as generally understood, to result in a loss, more or less complete, of the contractile power of the bladder, from over-stretching. This usually occurred through long-continued obstruction from enlarged prostate or organic urethral structure, especially in elderly persons. It was also recognized as occasionally resulting from sudden overstrain through even a single attack of retention from the same cause. Dr. Otis desired to call attention to this latter form, and especially when it occurred independent of any organic obstruction, but probably as a result of reflex irritation caused by a contracted meatus urinarius or urethral stricture of large calibre. Such

<sup>1</sup> Concluded from page 532.

reflex trouble might, however, result from the irritation of hemorrhoids. Again, the retention might be caused through temporary loss of consciousness or any nervous shock or from sexual excess. However produced, he claimed that a single retention of urine from any cause, might, within the space of a few hours, produce such an overstrain of the muscular structures of the bladder as to necessitate in some cases the use of catheter for the passage of every drop of urine during the remainder of the patient's lifetime. Several cases were cited in proof of the occurrence of acute retention from reflex causes, which were promptly and permanently relieved by division of a urethral contraction. To show in how brief a period overdistention of the bladder might occur, one case was cited, when twenty-three ounces of urine had been secreted within six hours, resulting in atony, involving the complete loss of the voluntary power of urination for several days. Another case where the accidental neglect to urinate on going to bed, had caused a total loss of voluntary power of urination for over two years. Other cases were cited where more or less complete retention had resulted in practically the same way. In none of these was there any prostatic enlargement, or close stricture. There was besides this no general atony of the bladder, as proven by the ability to increase to a normal degree the strength of the flow of urine through the catheter. From this fact, Dr. Otis assumed that the overstrain had been local, chiefly in that portion concerned in opening the vesical orifice. This was claimed to be the point where the greatest strain would occur in a sudden retention of urine. The portion thus weakened was unable to overcome the resistance of the muscular structure of the so-called vesical sphincter, and retention was the result.

In the case above noted where a complete loss of the power of voluntary urination had existed for over two years, removal of anterior strictures had failed to give relief. Subsequent exploration of the parts through a perineal section, failed to show any mechanical obstruction. A division of the structures of the vesical neck, thus weakening their resistance to the detrusor, overstrained and atoned at the base found, promptly restored the power of voluntary urination to some degree, and continued relief of the strain by systematic catheterization for several months, finally resulted in a complete recovery.

Dr. Otis claimed that in cases of sudden overstrain of the bladder by acute retention the damage was most likely to be an overstrain of the muscular structures in the vicinity of the base found, producing a local and not general atony; and that when atony of the bladder was not relieved by measures addressed to restoring the general tonicity of the bladder, the cure might be expedited by a division of the muscular structures of the vesical neck, even if no obstruction like a bar or other obstacle at the neck of the bladder could be detected.

Dr. Otis, in conclusion, summed up the suggestions which, in reviewing the cases cited, appeared most salient:

*First.* The importance of recognizing the influence of even slight urethral stricture in producing sudden retention of urine.

*Second.* The importance of early recognition and relief of such retention by catheter, and in this connection, the author advised against a too rapid emptying of the bladder, and stated that by a gradual with-

drawal of the urine, the danger of syncope, hemorrhage and cystitis were to a great extent avoided.

*Third.* That a localized atony, confined to the base of the bladder, may be present in sufficient degree to prevent voluntary urination while the contractile power of the superior portion of the bladder remains practically undiminished.

*Fourth.* That failure to restore the urinary function in such cases through general medication and local measures, including the removal of possible sources of reflex irritation in the urethra, suggests possible cure even in long-standing cases through incision of the vesical neck.

#### EARLY SYPHILITIC EPIDIDYMITIS.

Dr. J. N. HYDE, of Chicago, read a paper with this title.

The author cited cases which had come under his observation with a view of presenting the negative side of the subject. The following propositions, he thought, rested on fairly sound clinical grounds:

(1) A male patient may suffer from blenorraghic epididymitis on one side, subsequently contract syphilis, yet escape syphilitic involvement of the epididymis. (2) A male patient may suffer from blenorraghic epididymitis involving first one organ, then the other, finally acquire syphilis and escape syphilitic epididymitis. (3) A male patient may suffer from blenorraghic epididymitis of one or both organs, become so irritable as to exhibit by inflammatory accidents sympathy with successive blenorraghic attacks, yet throughout a final syphilis betray no sensitiveness to the last-named disease. (4) A male patient affected at the same time with syphilis and blenorraghia may suffer from an epididymitis evidently a complication of the last-mentioned disease, namely, blenorraghia, and yet escape syphilitic involvement of the organ. (5) A male patient may suffer from tuberculosis, subsequently incur syphilis, yet the epididymis escape involvement. (6) A male patient who has suffered from repeated attacks of blenorraghia, and that lately, may exhibit the typical form of early syphilitic epididymitis.

#### PROSTATOTOMY FOR OBSTRUCTION.

Dr. A. T. CABOT, of Boston, reported two cases of prostatotomy. In one, the operation was followed by almost complete recovery of the function of the bladder. In this case litholapaxy was done on the stone before the operation of prostatotomy. In the other case, although the first result of the operation was satisfactory, a certain amount of incontinence appeared some months later. Dr. Cabot ascribed this to the hypertrophied condition of the bladder which was sufficient to overcome the constrictor muscle weakened as a result of the incision into the membranous urethra. He queried whether in a case like this with good evidence of a hypertrophied bladder, and in which the obstruction was a narrow bar the internal prostatotomy of Mercier might not prove the better operation.

A PLEA FOR THE MORE GENERAL USE OF THE NITRATE OF SILVER IN THE DEEP URETHRA, WITH AN IMPROVED INSTRUMENT FOR ITS APPLICATION.

Dr. KEYES read the paper, and presented an instrument for injecting the deep urethra, which he believed was more suitable and more serviceable than other syringes in general use. His method is to deposit three to five minims of a watery solution of the nitrate

of silver of a strength varying from one to forty-eight grains in the ounce, very accurately in the centre of the membranous urethra, placing it there by the use of an instrument open at its tip. He thinks the method is not suitable in cancer, tubercle, or when the deep urethral symptoms are due to considerable periurethral inflammation, but most beneficial for inflammatory and neurotic surface disturbances of the deep urethra and neck of the bladder. He gave illustrative cases of cure of gonorrhoeal cystitis, relapsing epididymitis, vesical irritability, prostatorrhoea, etc.

In the full discussion on the paper which followed, most of the members expressed hopes of better results from deep urethral injections of nitrate of silver than had hitherto been generally attained. Dr. J. H. Brinton was one of the strongest advocates of this method which he had practised extensively. To relieve the discomfort or pain which the patient experienced after treatment by this or other methods, he had the patient stand by the basin and allow a small stream of water run over the corona of the penis; the relief was almost immediate. Dr. Mastin referred to the practice of Prof. Richardson, consisting in injecting a drachm of almost a saturated solution of nitrate of silver into the bladder in gonorrhoea and chronic cystitis.

Dr. R. W. TAYLOR, of New York, read a paper on  
A RARE FORM OF SEPTICÆMIA FOLLOWING INTERNAL URETHROTOMY.

The operation was performed in 1878 by a colleague, and the case was seen by Dr. Taylor in consultation. The occurrence of the accident complicating urethrotomy is unique in medical literature, and this consideration, together with the fact that the form of septicæmia is little known and only indifferently described by English and American writers, prompted the preparation of the paper. The patient was a perfectly healthy man, aged twenty-eight, who had a tight stricture of the bulbo-membranous junction which was incised by means of Maisonneuve's instrument. The operation was performed with all care. Within twenty-four hours severe pain attacked the perineal region, and soon a reddish boggy appearance was observed. Then the inflammatory action extended, and presented marked features. The integument became edematous, and a distinct emphysematous crackling was felt when pressure was made on the parts. As this rapidly extended, large brown patches of skin developed, which felt as hard as the rind of ham. Besides these there were large ecchymotic spots and deep blue-black lines which were caused by congestion and destruction of the veins. This condition extended over the whole body, which during life was much enlarged by the oedema and gas in the subcutaneous tissue, and after death the body became rapidly swollen beyond recognition and to fully twice its normal size, and was a deep purple, gangrenous mass, covered with large bullae, and emitting a horrible stench. Death took place eighty-seven hours after the operation. The subjective symptoms were rapid pulse, tremulous action of the heart, progressive and distressing dyspnoea, intense restlessness, utter agony and despair. The temperature at first rose, then fell below normal.

The disease was not accurately known until 1870, although many cases of it had been reported, particularly as occurring in the army, navy, and crowded hospitals. The cases were mostly epidemic. It started on the limbs generally, most frequently on the legs. It had

been called many names, but Dr. Taylor preferred the one proposed by Mollière, *septicæmie gazeuse foudroyante*. Reasons were given in support of the view that the disease is caused by a specific septic microbe. The only treatment is thorough amputation of the part in which the septicæmia begins, if that is practicable.

Dr. R. W. TAYLOR, of New York, then exhibited  
SECTIONS OF TUBERCULAR TESTES WITH BACILLI,  
AND THE CO-EXISTENT BACILLI IN THE SPUTUM.

The Association then adjourned to meet next year, time and place to be announced.

#### AMERICAN CLIMATOLOGICAL ASSOCIATION. FOURTH ANNUAL MEETING.

The fourth annual meeting of the Association was held in the Johns Hopkins University, Baltimore, Md., May 31 and June 1, 1887.

#### TUESDAY, MAY 31ST. AFTERNOON SESSION.

The Society was called to order by the President, Dr. FRANK DONALDSON, Sr., of Baltimore, who delivered the

PRESIDENT'S ADDRESS.  
PROPHYLACTIC TREATMENT OF THOSE WHO INHERIT  
A PREDISPOSITION TO PHTHISIS.

He referred to the great mortality of phthisis, but certain statistics compiled in this country and abroad show a decrease in the annual mortality. In England there has been a gain in males of fourteen per cent. and in females of twenty-two per cent.; in Massachusetts there has been a gain of 54 lives per 100,000.

Thirty per cent. of the cases have an inherited predisposition to the disease. The hereditary form when developed offers the least prospect of recovery. Reference was made to the pathology of the disease. Five years have elapsed since the contagion of tuberculosis was alleged to have been discovered, and nearly all observers have now confirmed the views of Koch. There is abundant evidence that human subjects readily yield to the bacillar poison, when previously they have been in perfect health. The bacillus is always present in phthisis, and we must accept it as the full explanation of the manifestations of tuberculosis. The disease may be propagated by the inhalation of the dried bacillus from the expectoration of diseased persons, by persons predisposed to tuberculosis. The various theories which had been advanced to explain heredity were discussed. The prophylactic treatment embrace two elements: (1) The improvement of the general health of the subject, and (2) the protection from contagion. The tuberculous mother should not nurse her child, but if possible it should be given to a healthy wet-nurse. The hygiene of the nursery should be looked after carefully. The room should be well ventilated and kept at a comparatively low temperature. The subject should live much out of doors, especially between the ages of fifteen and twenty years. The beneficial influence of sunlight should be borne in mind. All causes of glandular irritation should be avoided. Scrofulous glands should be dispersed or removed. The physical form of the chest should be enlarged by gymnastic movements. If possible, life should be passed in a high altitude. Olea-

ginous fluids are useful if they can be digested. The milk and flesh of tuberculous animals must be avoided, for cooking rarely destroys the bacilli of beef. If the prophylactic treatment is thoroughly carried out the hereditary proclivity may remain latent and the individual never contract the disease.

## DISCUSSION.

DR. JAMES C. WILSON, of Philadelphia. I think that the position taken by the author is what all should agree to; but, as we know, it is not accepted by all. Pulmonary tuberculosis in all its forms is in all probability an infectious, parasitic disease directly contagious.

DR. B. F. WESTBROOK, of Brooklyn. The anatomical and physiological conditions which predispose to this trouble are, according to the results of certain observations, a disproportion between the size of the heart and the lungs, the heart being smaller in proportion to the size of the lung than in the ordinary individual, and a disproportionately small digestive apparatus. The former condition interferes with the circulation at the apices while the latter condition causes a lack of nutrition.

## THE PHILOSOPHY OF CLIMATIC TREATMENT OF DISEASES OF THE CHEST,

by JAMES R. LEAMING, M.D., of New York.

It is observed that the greatest improvement takes place during the first three weeks of a patient's stay at a new place. The suggestion was made that a line of resorts be established along the Atlantic sea-coast. The patient could begin in the summer at the most northern, and gradually pass southward, making a stay of a few weeks at each place. Having completed the series, the patient may return, taking the stopping-places in a reverse order. This same plan might be applied to the Pacific coast and to the mountains. The speaker also suggested the propriety of State and municipal authorities furnishing sanatoriums for the benefit of those unable to avail themselves of the advantages of existing institutions.

## THE INFLUENCE OF SEA-AIR ON SYPHILITIC PHTHISIS,

by R. J. CURTIN, M.D., of Philadelphia.

The speaker gave in detail the histories of five cases of what appeared to be syphilitic phthisis, in which improvement followed prolonged sea-voyages, and in each case the symptoms returned when the patient again took up his residence on land. He was led to consider the cases observed as cases of syphilitic phthisis for the reasons that there were no symptoms of chronic pneumonia preceding the attack; that the lung trouble followed syphilitic infection, with constitutional symptoms; that the disease was influenced to some extent by constitutional treatment; and that there was no tendency to tuberculosis in these cases. He referred to the observations of Dr. William Porter, who relies upon the following points in reaching a diagnosis of syphilitic phthisis: (1) Abundant expectoration, without signs of softening. (2) A debilitated condition, without marked emaciation, and a rational history of phthisis. (3) Pronounced dyspnea, without evidence of cardiac or pulmonary obstruction to the circulation. (4) Pain along the sternum and the tibial crests. (5) The satisfactory response to treatment. Dr. Porter had examined the sputa in one hundred cases without finding the bacillus. The speaker was

not prepared to say why it was that the sea-air proved beneficial in these cases, while in most of the ordinary cases of phthisis residence on the sea-coast was not desirable.

## DISEASED CONDITIONS FOR WHICH SEA-AIR IS OF DOUBTFUL BENEFIT,

by BOARDMAN READ, M.D., of Atlantic City.  
(Read by title.)

## DISCUSSION.

DR. E. T. BRUEN, of Philadelphia. It is desirable that we should have correct views with regard to the influence of sea-air on pulmonary affections. It is probable that, in syphilitic phthisis, the benefit of the sea-air is due to its influence on the catarrhal processes. In catarrhal affections of the mucous membrane in general, it has seemed to me that residence at the sea-shore was useful. On the other hand, in tubercular phthisis, it has seemed to me that the influence of sea-air was disastrous. I am led to make these remarks because I find so many patients with phthisis recommended to reside at the sea-shore, or to take ocean voyages. I have found that those cases benefitted from prolonged sea-voyages are those in which there is no inherited tendency to tuberculosis.

DR. V. Y. BOWDITCH, of Boston. I should make a great distinction in speaking of the sea-coast air and the pure sea-air. Cases which could not stand the harsh, cold, and changeable air of the sea-coast may be benefitted by a sea-voyage or residence on an island some distance from the shore, where the conditions are similar to those which obtain on a sea-voyage.

DR. F. I. KNIGHT, of Boston. While I am sure that the general feeling is that the coast climate is not suitable for cases of phthisis, yet, in several instances, I have known patients to improve and gain in weight during a stay at some of the coldest resorts on the New England coast.

DR. JAMES C. WILSON, of Philadelphia. I have had no experience with syphilitic phthisis, but with reference to residence at the sea-coast in the treatment of phthisis, I would say that, in my experience, there are three classes of patients with consumption who cannot go to our exposed Atlantic sea-coast without risk: These are, first, those in whom there is active febrile disturbance; secondly, those of a highly excitable and nervous organization; and thirdly, those who suffer from repeated attacks of spitting of blood. Such patients cannot safely reside for any length of time on the Atlantic sea-coast.

DR. F. C. SHATTUCK, of Boston. The author has referred to syphilitic phthisis, that is to say, a destructive process in the lung not due to tubercle but to syphilitic virus. It seems to me to be a difficult matter to determine whether or not there is such an affection. Tubercular phthisis varies so much in its symptoms that the points mentioned I think cannot be relied on. It seems to me that the criterion would be the presence or absence of the tubercle bacillus. The author referred to Dr. Porter as having examined the sputa from one hundred cases of supposed syphilitic phthisis without finding the bacillus. That number is so large for the short time that this test has been available, that it would make us a little doubtful of the methods employed. The fact that the bacillus is not found, is no proof that it is not present. The German Committee on the Collective Investigation of

Disease, studied this matter last year and came to the conclusion that so-called syphilitic phthisis had no real existence. Both syphilis and tuberculosis are common diseases and the one offers no immunity from the other, so that we should expect to frequently find them combined in the same individual.

DR. J. H. MUSSEY, of Philadelphia. I have never seen a case of phthisis which I considered of syphilitic origin. In my experience in the post-mortem room I have come across only one case in which the lesions bore any resemblance to what we should expect to find in syphilitic phthisis. This was the case of a young man with syphilis and cirrhosis of the liver, due to syphilitic interstitial hepatitis; there were also syphilitic gummata in the brain, and the patient died of syphilitic meningitis. There were scattered through both lungs innumerable miliary granules not at all resembling miliary tubercles. These were solid bodies made up of a yellow core which was moderately firm and surrounded by a ring which made up at least one-half of the nodule. The microscopical examination showed these bodies to consist of a ring of firm fibrous connective tissue in the centre of which there were degenerating cells. We were unable to find the bacillus of phthisis, but as has already been stated, the failure to find it is no proof of its absence. I should not call this a case of syphilitic phthisis, but rather a case of syphilis of the lungs.

DR. E. FLETCHER INGALLS, of Chicago. I have been much interested in the remarks of the gentlemen from Boston, but I apprehend that most of us have seen cases in which the syphilitic nature of the disease admitted of no question. Even if the bacilli are found it would be no proof that the case had not originated as a syphilitic trouble and that it had subsequently become tubercular. I recall one case in which the syphilitic manifestations were very prominent. There was consolidation of the lungs, particularly of the middle portion of one lung. There was a history of syphilis and distinct cutaneous lesion. The patient had been in Colorado and returned much worse. On his return to a lower altitude he was put on the use of iodide of potassium and ultimately apparently recovered.

The papers were also discussed by DRs. FORD, of Utica, and FRANK DONALDSON, JR., of Baltimore.

THE TREATMENT OF THE FINAL STAGE OF PHTHISIS, by DR. J. H. MUSSEY, of Philadelphia.

The paper consisted of a detailed account of the symptoms met with in the last stages of phthisis and referred to the various measures which he had found useful in these cases. To relieve the high temperature he had resorted to antifebrin with advantage. Quinine was found to act unsatisfactorily.

The president announced as the nominating committee, DRs. F. C. SHATTUCK, E. T. BRUN, WILLIS E. FORD, B. F. WESTBROOK and W. H. GEDDINGS.

Adjourned to evening.

(To be continued.)

— *First colored citizen*: "Come ovah yur, Jim."  
— *Second colored citizen*: "Whafur?" — "Got suthin' good." "What is it?" — "Pollynaris watah." "Pooh! watah!" — "S good, though." "Wha's taste like?" — "Like yer foot's asleap." — *Pittsburg Chronicle*.

## THE BOSTON Medical and Surgical Journal.

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### MEDICINE IN JAPAN.

DR. NORTON WHITNEY lately read before the Asiatic Society, at Tokio, a valuable paper on "Medicine in the far East," in which was contained much interesting information respecting physic in Japan, and the current number of the *Westminster Review* gives a good exposition of the subject.

It is noteworthy that it is within the lifetime of the present generation that this great empire has been opened to intercourse with foreigners, and during the last two decades rapid strides have been made in the way of medical development. To give an account of the medical schools now flourishing in Japan, and their thorough equipment with modern appliances, would take more space than is at our disposal in this article. Women are also allowed to practise medicine there, and have the same general privileges as in this country. Japanese ladies also regularly come westward to pursue medical studies.

It is an interesting fact that the history of medicine in Japan bears a marked resemblance to the same history as associated with European civilization in its rise and progress. Among the primitive Japanese, the "medicine man" was a priest and a sorcerer, and physic was allied with divination, and this has been the case, by the way, with all primitive societies. There seems to have been an irresistible tendency to associate disease with the baleful volitions and the enmity of evil spirits, and hence the necessity of exorcism and propitiation. The whimsical, heroic, and often disgusting, methods of treatment seem based on the belief that the body of the patient may thereby be rendered too uncomfortable a place for the demon to continue to inhabit.

The Japanese seem early to have possessed some knowledge of anatomy, derived from the dissection of monkeys, and their speculations as to the composition of the human body resembled the views entertained by the old Greek philosophers. Man, said the former, is a compound of wind, fire, water, and earth, plus a soul. One of the winds circulates in the arteries, and so

causes the pulse (this was also in accordance with the physiology of the school of Hippocrates), while one of the fires displays itself in fevers, and another wastes the frame in old age. The derangements of the four elements give rise to diseases. This theory was not widely different (as the *Review* writer shows) from that held by Hippocrates, who taught that the elements of the human body are four, from which are derived the four humors—blood, phlegm, bile, and black bile—which rule the four temperaments, and whose irregularities constitute disease.

About the third century of our era, the Japanese, through conquest, came in contact with the Koreans, and subsequently, with the Chinese, and medical practice underwent modifications. The diabolical theory of disease gradually gave way to more rational views as to causation; the Japanese faculty came to recognize food and drink, atmospheric conditions, as wind and cold, heat and moisture, as causes of sickness. So impressed, in fact, was a celebrated Buddhist physician with the conviction that most stomach and intestinal disorders come from over-eating, that he adopted the practice of starving his patients into health—a mode of treatment that was often salutary and successful.

Shampooing, acupuncture, and the moxa, as well as the induction of anesthesia by various narcotics (as hemp), have long been employed by Japanese surgeons. The medical school established A.D. 669, had a professor of shampooing, with ten pupils, and another of acupuncture, with twenty. In 820, five acupuncturists were attached to the Mikado. The operation, as practised by the Japanese, consisted "in driving fine gold, silver, or steel needles from one-half to three-quarters-of-an-inch into the flesh." The number of performances made at one time varied from one to twenty.

The use of the moxa was learned from the Chinese, who carry the date of its invention back to the year B.C. 2800.

A celebrated physician, Toku-hon, who lived in the sixteenth century, adopted common-sense methods in the treatment of disease, eschewed the stabbing and burning methods so much in vogue, and may be looked upon as the father of modern rational medicine in Japan. He died in 1630, at the age of one hundred and eighteen. "He held, like Asclepiades, that the true scope of his art was to help and foster the innate recuperative power of nature; and it is related of him, that being called to see a great man who lay ill of a violent fever, the first thing he did was to ask him what he liked and disliked most. The patient replied that, of all things, he should like to throw off all the bed-clothes, let the draughts blow around him, eat a melon, and drink plenty of cold water, all of which Toku-hon immediately and gravely prescribed. Can he have heard of Asclepiades, who, sixteen hundred years before him, professed it to be the physician's duty to heal safely, speedily, and pleasantly, consulting the patient's inclinations, and flattering his prejudices?"

#### MIDNIGHT CALLS.

DOCTORS are known to be exposed in various ways to dangers to which their non-medical neighbors are less liable, but there is one particular peril which menaces the doctor's safety from which other men are free. If a man is called out of bed at night and asked to go to a house where he is unacquainted, he naturally becomes suspicious and refuses to go, or takes precautions to guard against treachery. The doctor, however, finds it but a part of his ordinary experience to thus start out alone at dead of night, at the summons of a perfect stranger. We read of doctors who have thus been led into traps, but for the honor of humanity it may be said such occurrences are rare.

An attempt was, however, made a few nights ago to take advantage of this confiding spirit on the part of the profession. A medical man who lives in what may be styled the medical centre of Boston was roused by a ring at his bell, followed by a summons to a house in a street not far away, and in a perfectly respectable locality. The doctor made certain inquiries to make sure there was no mistake on the part of the messenger, but did not see the man at the door nor recognize anything different from an ordinary night call. He dressed and started. The street to which he went was brightly lighted on one side by an electric light, but the house to which he was called lay in deep shadow. The steps to the door were high with an area door below. When the doctor was within a door or two of the house to which he had been called he was suddenly conscious of some one moving in the dark at the side of the steps. It occurred to him that the messenger was either waiting to show the way or was just starting out to repeat the summons, and he turned to inquire of him if that was the house. His surprise was great to find himself facing a man who appeared to hold a pistol in his right hand (he certainly took the position naturally assumed by a man who threatens a traveller with a revolver, although the darkness left it a little uncertain whether he really held the weapon) and a cord in the left hand. At the same time the assailant said, "keep quiet, doctor; keep quiet, don't lift your hands." The doctor very naturally stood still and stared at the man and his revolver. His thoughts during the time he does not pretend to reproduce, but after a time, which may have been half a minute, though it certainly seemed much longer, he suddenly started across the street and took the road toward home. The man immediately ran parallel to the doctor on his own side of the street, as the doctor supposed to cut him off at the next crossing, but when the doctor turned at the corner he found that his assailant went the other way. The doctor therefore turned back, and followed far enough to see the man vanish in a labyrinth of small streets. A visit next day to the house from which the call was supposed to issue showed that nothing was there known in regard to the matter. Of course nothing can be certainly known as to the object of this midnight treachery, though robbery through intima-

tion was undoubtedly intended. The position of the man at a spot the doctor was sure to pass, and the cord in his hand leave abundant food for the imagination.

Inquiry reveals only one similar instance in this vicinity. A physician in active practice in Charlestown, was called at night to see a man on a ship said to be lying at a certain wharf. He did not like the locality and was tired and refused to go; inquiry on the morrow showed that no such ship was there.

Words are hardly adequate to express the feelings with which a medical man must regard such an occurrence, and the story needs no comments.

How doctors can guard against such treachery is not easy to say. To be forewarned is to be given a chance to be forearmed.

#### JACCOUD ON THE CAUSATION OF PNEUMONIA.

JACCOUD, whose work on "Internal Pathology" is one of the medical classics of the day, lately read before the Academy of Sciences a short paper, in which he takes a stand against the microbiotic theory of pneumonia, and argues in favor of the older view that pneumonia owes its origin to cold. He reports two cases occurring under his observation, where exposure to cold was the immediate antecedent of the attack and where the sputa before death, and portions of the lungs after death, presented multitudes of pneumococci.

His explanation of the presence of the latter is that these microbes are harmless to the healthy organism, but find a suitable habitat where they can multiply and flourish, when, from certain causes, the vital forces and the resistance of the tissues are weakened. "The human organism," he says, "contains constantly in itself multitudes of microbes of different species. It is a hostile environment for them when the functions go on normally, but when any severe perturbation impairs the physiological harmony, the vital resistance fails, and the previously hostile environment becomes a favorable one; the organism now becomes a prey to its own microbes."

This view is the one commonly held by the opponents of the bacterial pathology, and can only be disproved by facts of experimentation going to show that the supposed specific microbe is capable, of itself, of generating the disease, independently of the influence of cold or any other depressing influence.

#### MEDICAL NOTES.

— The somewhat ambiguous announcement has been sent to the JOURNAL: "Mantoni Giesshübler, the celebrated natural mineral water of H. Mantoni, at Karlsbad, Bohemia."

— A correspondent of the *Chemist and Druggist*, in describing how to make a percolator, mentions the following method of cutting a bottle: "I was first shown how to do it by an ingenious mechanic, and have since

seen the same published in Spons' "Workshop Receipts." Put the bottle on a level foundation, and fill up with oil (I use linseed oil, being able to use it in paint-making afterwards) as far as you wish the line of separation to be. Next get a rod of iron as large as possible, but small enough to go into the mouth of the bottle. Make the iron almost white-hot, and dip into the oil. In a very short time a crack will be heard, when the iron can be taken out, and the bottle will be found as neatly cut as if with a diamond. Should the bottle be very thick, and the crack not heard in a minute or so, a dash of cold water outside will settle the business."

— Mr. Thomas C. Platt, of New York, has adopted the somewhat remarkable course of resigning his quarantine commissionership *conditionally*, on the Governor's assuring him that he will appoint Col. Frederick D. Grant in his stead. The general condition of quarantine and health matters in New York seems to have been such as to require, in some cases, the application of disinfectants to the departments themselves; and Mr. Platt has not preserved his quarantine office in absolutely perfect odor. But, as the *New York Times* remarks, the laws of the State place the power to appoint quarantine commissioners in the hands of the Governor, and not in those of the out-going official.

— Reports dated the middle of May showed that, owing to the neglect of the Government in not enforcing vaccination, isolation, and disinfection, small-pox has become epidemic in the city of Santiago de Cuba. There are fully 500 hundred cases within the city limits, apart from those outside. The death-rate is estimated to be as high as 60 per cent., due to the fact that some 35,000 out of a population of 40,000 are supposed to be wholly unprotected by vaccination. The disease is spreading rapidly, especially among the 29,000 blacks in the city, and medical men expect that thousands will be swept away if stringent measures are not taken to check the disease. Meanwhile, steamers and other vessels sail daily to Havana, New York, New Orleans, and other ports. The epidemic of small-pox in the adjoining island of Jamaica is not over.

— The acting assistant-surgeon in charge of the quarantine at Delaware Breakwater, reports to the surgeon-general of the Marine-Hospital Service, that in the town of Lewes, Del., (population 1,900), from January 9th, when the first case appeared, to April 20, 1887, there were 836 cases of measles reported, and about 200 cases in the immediate vicinity of the town. The mortality was low, being only about 1.5 per cent.

The medical officer in charge of the Marine-Hospital Service, at Key West, (Passed Assistant Surgeon Glennan) under date of May 28th, reports to the surgeon-general that "out of a total number of five cases there have been three deaths and one recovery, and one with a probability of recovery," from yellow fever, "all originating in one infected premises. The danger apprehended was on account of the large number of unacclimated persons in the city, with every means

of outlet cut off. Many left in sailing-vessels, and, at my suggestion, Dr. Porter asked the Louisiana board to allow healthy persons to go from here this week, subject to inspection or detention at the New Orleans quarantine, which was granted. At this date no new cases have developed, but it is yet too early to say that the disease has been stamped out. In any event, the care exercised in this instance by the board of health, in guarding infected houses, fumigating and destroying infected material, and in promptly declaring the existence of the disease, (measures probably for the first time efficiently adopted in this place), has practically established an outside confidence in sanitary information emanating from here. . . . It is reasonable to suppose that the infection was introduced here by a Bolio family, who formerly kept the San Carlos and Fifth Avenue hotels in Havana. During the past winter they have brought over household goods and stored them in the adjoining house. It is said that Baker and his wife slept upon one of their mattresses. At a special meeting of the board of health this morning, at which I was present, this was recognized as probable. The disease may now be said to have three foci; and should the board of health now succeed in preventing its further spread, it will only be done by the utmost care and vigilance." A telegram, June 1st, reports four new cases in different localities. The War Department authorized the president of the board of health to use the hospital and the laundress quarters attached to the military barracks for the treatment of yellow-fever patients. Iron bedsteads and mattresses were sent from the marine-hospital stores.

The United States sanitary inspector at Havana, Dr. Burgess, reports that the furniture bought of Mrs. Bolio and used by the Baker family had been used in a hotel at Havana, and it is well known that many cases of yellow fever have occurred in that hotel during the last few years. He himself had treated five cases in it, and is of opinion that the old pillows, bedding, etc., were the sources of infection.

Inspection of vessels was commenced at the Delaware Breakwater quarantine June 2, 1887.

#### NEW YORK.

—The State Legislature adjourned without confirming Dr. Phelps as Health Officer of the port of New York, as was the case when the Governor nominated the same gentleman for the appointment last year, so that the perennial Dr. Smith still holds his own.

—The nineteenth annual commencement of the Woman's Medical College of the New York Infirmary took place May 30th, in the concert hall of the Metropolitan Opera House. There were seven graduates, and the address to the class was by the Rev. Henry J. Van Dyke, Jr. In the report of the Alumnae Association, which was read by Dr. Mary Bissell, allusion was made to the good work done by the graduates of the College in India, China, and Japan.

—There has been a considerable number of cases of pleuro-pneumonia among the herds in the neighbor-

ing county of Westchester, principally in the towns of Somers and Bedford, and some New York butchers recently went there and killed nearly two hundred of the diseased cattle. The owners receive from the National Government and the city of New York, jointly, \$40 per head for the stock thus killed, by direction of the State Inspectors. Most of the diseased cattle came from the West, and are supposed to have been infected when they arrived. Westchester County is for the present quarantined, and dealers there are prohibited from sending any cattle to the city.

### Miscellany.

#### POISONING BY PILOCARPINE.

DR. A. G. GLINSKY, of the Kharkov Alexandravskaia Infirmary, reports, in the "Proceedings of the Kharkov Medical Society," part 1, 1886, page 109, as we learn from the *British Medical Journal*, a case of poisoning by pilocarpine — the first of its kind, according to the writer, in medical literature. A gentleman who had been in the habit of using a solution of pilocarpine as a stimulant for the hair, swallowed a considerable dose of the fluid, instead of a solution of quinine. About five minutes afterwards, profuse perspiration, first of the face, and then of the whole body, set in, together with salivation. These symptoms were speedily followed by dimness of sight, prostration, trembling of the limbs, a sensation of cold, noise in the head, and a general sense of confusion. On seeing the patient, about an hour after the accident, Dr. Glinsky found profuse, cold, clammy sweat, in big drops, on the face and body, coldness of the limbs, slight cyanosis of the hands and lips, a subnormal temperature; pulse 84, full, dicrotic; respirations 14; profuse salivation, great contraction of the pupils, spasmodic shiverings, general restlessness, extreme weakness, and trembling of the lower extremities. The treatment consisted of the internal administration of tannin and emetics, together with the hypodermic injection of atropine (1-30 of a grain, given in three doses). A quarter-of-an-hour after the injections a striking improvement took place; the perspiration ceased, the pupils became dilated, and tremor disappeared, and on the following day the patient was quite well. Dr. Glinsky adds that, in the period of 1879-85, 160 cases of poisoning by 23 toxic substances were admitted to the Alexandravskaia Infirmary. In 85 of these, phosphorus matches supplied the poisonous material. He shows, by statistics, that this kind of poisoning finds an increasing number of victims in Kharkov every year.

#### THE TREATMENT OF DIPHTHERIA.

THE *Therapeutic Gazette*, May, 1887, discusses the treatment of diphtheria and outlines the treatment which the editor personally has come to adopt. The primary and probably the most important part of the treatment is the free use of local remedies, of which Monsel's solution is, according to his thinking, the most efficacious. It should be painted very freely over the affected parts every four hours, either undi-

luted or diluted with an equal bulk of glycerin. It is essential to exercise a certain amount of care and not have the brush so wet that the solution will trickle into the larynx, unless, indeed, this organ has been invaded by the disease. Next to the local treatment comes the administration of mercurials. "We have so frequently seen an apparently severe attack of diphtheria abruptly aborted in its inception under the influence of large doses of calomel," say the writer, "that we can scarcely believe that the drug has no pronounced effect. A grain of it should be put dry in the mouth of the child every hour or two until frequent very loose liquid evacuations are produced. In diphtheritic, as in other forms of angina, tincture of belladonna has seemed to us to also exert an almost specific effect. In the treatment of severe ordinary sore throat our routine plan is the free local application of the solution of subsulphate of iron, diluted or undiluted according to the exigencies of the case, the administration of mercurials in the manner just described, and the use of belladonna, five drops of the tincture every two to four hours according to the age of the patient. The results which we have obtained in simple sore throat indicate that in diphtheria the treatment acts not by any specific influence upon the disease-germ, but by curing a local sore throat, which is the initial lesion of diphtheria, and causes through a septic poisoning the constitutional disturbance. As a specific antiseptic medication we have used the oil of eucalyptus with apparent advantage. It should be placed in small shallow vessels near to the patient, and a sufficient heat be steadily maintained to keep the liquid boiling. In this way large quantities of the eucalyptus oil can be volatilized and the respiratory passages be perpetually bathed with the antiseptic." The inhalations of turpentine as practised by Dr. Delthill of Paris and the improvement upon his method introduced more recently by Dr. Schenker are also referred to. The results obtained both by Dr. Schenker and Dr. Siegel from its internal use of turpentine indicate that it has considerable value in diphtheria.

#### THE INDICATIONS AND THE RATIONALE OF WASHING OUT THE PUERPERAL UTERUS.

DR. J. HALLIDAY CROOM, President of the Edinburgh Obstetrical Society, read before that Society a paper on the indications for, and method of washing out the puerperal uterus, which appears in the *Edinburgh Medical Journal*, May, 1887. He formulates the circumstances under which antiseptic washing out of the uterine cavity is indicated as follows:

**Indications.**—1. Where, with localized tenderness over the uterus, there is a high pulse and temperature, and a fetid discharge. It is to be observed that the discharge must be fetid from the uterus. In order to decide this question, it is essential to wash out the vagina with an antiseptic wash—inodorous, such as corrosive sublimate—and then putting the finger up and into the cervix, to decide whether it is fetid or not. As I shall have occasion to point out in the sequel, all first washings out should be performed under chloroform, therefore I always explore the cavity of the uterus with the finger. I need not here refer to the ease with which this can be performed, at least, during the first week of the puerperium. Even at a long period after labor, the carbolyzed fingers can be

comparatively easily introduced. In most cases some morbid product will be found, and in all cases, the necessary dilatation of the cervix will much facilitate the process of washing out.

2. Where, with a high pulse and temperature, there is any question as to the absolute complete delivery of the placenta; and, in this connection, it is impossible to emphasize too strongly the importance of examining closely the placenta after delivery, whether it be expressed, extracted, or delivered spontaneously. Such care will often eliminate at once any possible cause of infection.

3. Where portions of membrane have been retained *in utero*, and give rise to increase in pulse and temperature. Here, however, let me say it is possible to do harm in endeavoring to remove the membranes completely at the time of delivery. It is much better to leave a portion of membrane than to open up the genital canal in search for a small piece.

4. After the birth of a putrid fetus.

5. Where the uterus remains abnormally large after labor, and where, as a result, owing to the presence of decomposing clot, symptoms of septic infection develop themselves. In such cases, washing out ought to be accompanied by the introduction of the finger within the uterus, and in all such cases quinine ought to be administered in large doses.

6. In cases where, late on in the puerperium, symptoms of septicæmia develop themselves.

7. In those somewhat rare, but well-recognized cases, where, from acute flexion of the uterus, the lochia are retained and decompose.

8. In some cases of imperfect abortion and premature labor, and in all cases where the uterus, under such circumstances, has been curetted.

9. In all cases where the hand has been introduced—say in cases of post-partum hemorrhage, adherent placenta, or uterine hydatids—washing out the uterus with hot antiseptic water is the recognized treatment.

**Rationale.** "What is the rationale," the author next asks, "of washing out the puerperal uterus in septicæmia?" It seems, at first sight, open to doubt how far washing out the uterine cavity can prove effective in checking septicæmia if rapidly multiplying microbes have already passed into the system.

This point was alluded to during the interesting discussion which took place last session on the relation of microorganisms to puerperal fever, namely, that microorganisms require the condition of rest for their development. They do not multiply in the circulating blood. Dr. Freeland Barbour neatly and forcibly puts it thus: "That in those cases the toxic material does not multiply in the blood, but is generated in the uterus alone, from which it is served out into the system and eliminated by the excreting organs. The relation might be illustrated from the gas-supply of a city, in which the gas is, of course, produced at the retorts at the central work, and is simply served through the pipes and eliminated at the burners. By washing out the uterus, we put out the retorts and stop further production, the elimination of the poison being only a question of time." The value of washing out the uterus is confined to those cases where the septic material is developed in, and confined to, the uterine cavity. Where the development of the toxic material has gone beyond this, or where the septicæmia is developed originally outside the uterus altogether, obviously washing out the uterus will be of no avail.

## Correspondence.

## A NEW TREATMENT FOR PHLEBITIS OF THE LEG.

BOSTON, June 1, 1887.

MR. EDITOR,—I would record the fact that one case of recurrent deep phlebitis of the legs in an adult male, yielded well to a form of treatment not according to the routine generally followed and taught hereabouts.

In the patient referred to, three attacks to date have been under close study during the last eleven years; routine treatment was given during the two first attacks, namely, entire rest, elevated position of leg and opiates with hot fomentations. A very decided temporary paralysis of the feet and lower legs resulted from this disuse of the parts and the treatment. In this last attack no entire rest, no elevated position of the leg. No hot fomentations, no opiates were given, but the patient was ordered to force the exercise of the legs, just as soon as the clot

which formed was firmly fixed and the obstruction of the vein fully established, to rub into the leg freely (Metcalf's) lanolin and olive oil equal parts several times daily. When the pain of walking became excessive a temporary resting was indulged in by bending the leg upon the thigh, thereby compressing the arterial supply somewhat. A speedy complete recovery took place with no paralysis and no untoward symptom whatever, all existing oedema of the calf and ankle passing away at an early stage of the treatment. The theory is simple, that by these means the necessary collateral circulation around the obstructed vein was quickly formed by the tissues being softened and the pressure of the blood column remaining strong during the movements of the parts; opiates seem to be contraindicated where the tendency to stagnation of blood exists. Better is it to endure much pain than to risk adding to a disease. The patient can be seen by any one wishing to do so, and all inquiries will be gladly answered.

JOHN DIXWELL, M.D.

## REPORTED MORTALITY FOR THE WEEK ENDING MAY 28, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Croup.	Measles.
New York . . . . .	1,481,920	732	280	17.22	14.84	2.66	9.24	1.22
Philadelphia . . . . .	993,801	—	—	—	—	—	—	—
Brooklyn . . . . .	745,108	266	100	20.52	14.06	1.90	10.26	2.28
Chicago . . . . .	725,000	—	—	—	—	—	—	—
St. Louis . . . . .	420,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	127	39	9.48	14.22	3.16	—	.79
Boston . . . . .	400,000	186	59	14.58	18.36	1.68	3.24	1.62
New Orleans . . . . .	242,750	130	52	28.49	16.17	21.56	1.54	—
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
District of Columbia . . . . .	210,000	89	26	11.24	10.08	3.36	2.24	1.12
Pittsburgh . . . . .	210,000	61	23	22.46	8.20	6.56	4.92	1.64
Montreal . . . . .	186,257	—	—	—	—	—	—	—
Milwaukee . . . . .	170,000	—	—	—	—	—	—	—
Providence . . . . .	121,000	47	15	21.28	8.52	—	—	12.78
Richmond . . . . .	100,000	23	11	—	—	—	—	—
New Haven . . . . .	80,000	—	—	—	—	—	—	—
Nashville . . . . .	65,000	18	8	27.77	—	16.66	—	—
Charleston . . . . .	60,145	44	21	11.35	20.43	11.36	—	—
Portland . . . . .	40,000	15	2	13.33	13.33	—	6.66	—
Worcester . . . . .	38,383	16	2	12.50	18.75	—	6.25	—
Lowell . . . . .	64,051	31	9	22.61	6.46	3.23	6.46	3.23
Cambridge . . . . .	59,660	22	10	18.24	13.68	—	—	18.24
Fall River . . . . .	56,863	16	6	—	12.50	—	—	—
Lynn . . . . .	45,861	17	2	—	23.52	—	—	—
Lawrence . . . . .	38,825	12	3	8.33	8.33	—	8.33	—
Springfield . . . . .	37,577	—	—	—	—	—	—	—
New Bedford . . . . .	33,383	12	4	—	16.66	—	—	—
Somerville . . . . .	29,992	11	3	9.09	27.27	—	—	9.09
Salem . . . . .	28,084	17	5	—	—	—	—	—
Holyoke . . . . .	27,894	10	—	50.00	—	10.00	20.00	20.00
Chelsea . . . . .	25,709	5	2	20.00	—	—	20.00	—
Taunton . . . . .	23,674	4	2	—	—	—	—	—
Haverhill . . . . .	21,735	5	1	20.00	60.00	—	20.00	—
Gloucester . . . . .	21,713	3	0	—	33.33	—	—	—
Brookton . . . . .	20,783	5	2	20.00	20.00	—	20.00	—
Newton . . . . .	19,759	3	1	—	—	—	—	—
Malden . . . . .	16,407	—	—	—	—	—	—	—
Fitchburg . . . . .	15,375	4	0	—	—	—	—	—
Waltham . . . . .	14,609	5	0	20.00	—	—	—	—
Newburyport . . . . .	13,716	5	0	—	40.00	—	—	—
Northampton . . . . .	12,896	—	—	—	—	—	—	—

Deaths reported 1,941: under five years of age 688; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 344, consumption 276, lung diseases 242, diphtheria and croup 121, diarrhoeal diseases 77, measles 35, scarlet fever 29, typhoid fever 27, malarial fevers 24, cerebro-spinal meningitis 14, erysipelas six, puerperal fever five, whooping-cough one. From scarlet fever, New York 14, Boston five, Brooklyn four, District of Columbia two, Pittsburgh, Providence, Lowell, and Salem, one each. From typhoid fever, Boston six, Pittsburgh four, Brooklyn, Baltimore and Providence, three each, Portland, District of Columbia, Nashville, Lowell and Waltham one each. From malarial fever, Brooklyn and New Orleans seven each, New York six, District of Columbia one, Baltimore three. From cerebro-spinal meningitis, New York eight, Boston and Lowell two each, Nashville and Fall River one each. From

erysipelas, New York and Boston two each, Brooklyn and Worcester one each. From puerperal fever, New York two, Boston, Baltimore and Pittsburgh one each. From small-pox New York four, Brooklyn one. From whooping-cough, New York one.

In the 28 greater towns of England and Wales, with an estimated population of 9,245,000, for the week ending May 14th, the death-rate was 19.7. Deaths reported 3,494: infants under one year of age 818; measles 235, whooping-cough 136, scarlet fever 47, fever 33, diarrhoea 27, diphtheria 26.

The death-rates ranged from 18.7 in Bolton to 29.0 in Huddersfield; Birkenhead 19.8; Birmingham 22.6; Bradford 21.6; Halifax 18.4; Hull 17.2; Leeds 22.7; Leicester 14.9; Liverpool 26.9; London 17.3; Manchester 26.4; Newcastle-on-Tyne 26.2; Nottingham 21.6; Sheffield 20.5; Sunderland 15.3.

In Edinburgh 23.8; Glasgow 23.7; Dublin 24.4.

The meteorological record for the week ending May 28, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

	Barometer.	Thermometer.		Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.			
Week ending	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount in Inches.
Saturday, May 28, 1887.																			
Sunday,.....22	30.17	61.0	76.0	35.0	76.0	44.0	86.0	69.0	E.	S.	W.	5	12	11	F.	C.	C.	8	—
Monday,.....23	29.97	72.0	85.0	58.0	72.0	33.0	76.0	61.0	S.W.	S.W.	S.W.	18	24	20	C.	F.	C.	—	—
Tuesday,.....24	29.86	70.0	77.0	64.0	80.0	63.0	86.0	76.0	S.W.	S.W.	S.	16	17	10	O.	O.	O.	—	—
Wednesday,.....25	29.69	67.0	72.0	61.0	94.0	89.0	92.0	89.0	S.	S.	W.	8	10	9	O.	O.	F.	8	12
Thursday,.....26	29.59	64.0	74.0	60.0	94.0	89.0	76.0	87.0	W.	E.	S.W.	5	11	13	O.	O.	O.	2	39
Friday,.....27	29.67	57.0	68.0	51.0	92.0	88.0	100.0	93.0	S.W.	E.	N.	5	18	18	O.	O.	R.	8	11
Saturday,.....28	29.82	48.0	52.0	46.0	93.0	100.0	95.0	96.0	N.E.	N.E.	N.E.	23	14	17	O.	R.	R.	10	99
Mean, the Week.	29.824	63.1					81.6											34	1.42

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; I., Inappreciable.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 28, 1887, TO JUNE 3, 1887.

PERLEY, H. O., captain and assistant surgeon. Relieved from duty at Fort Maginnis, M. T., and ordered for temporary duty at Fort Snelling, Minn. S. O. 49, Department of Dakota, May 25, 1887.

SUTER, WM. N., first lieutenant and assistant surgeon (recently appointed). Ordered for temporary duty at Washington Barracks, D. C. S. O. 122, A. G. O., May 27, 1887.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JUNE 4, 1887.

BRANSFORD, JOHN F., surgeon. Ordered to the Smithsonian Institution at Washington, D. C.

TRYON, RUFUS J., surgeon. Detached from the United States Steamship "Quinnebaug," and ordered home.

SIEGFELD, CHARLES A., surgeon. Ordered to the United States Steamship "Quinnebaug."

MARTIN, WILLIAM, assistant surgeon. Detached from the United States Steamship "Pinta," and ordered home.

FITTS, HENRY B., passed assistant surgeon. Detached from the Receiving Ship "Vermont," and ordered to the United States Steamship "Pinta."

FIELD, JAMES G., assistant surgeon. Ordered to the Receiving Ship "Vermont."

#### SOCIETY NOTICE.

NEW HAMPSHIRE MEDICAL SOCIETY.—The Ninety-Seventh Annual Meeting will convene in the Opera House, N. Main St., Concord, N.H., Tuesday, June 21, 1887, at 11 A.M. The programme for Tuesday, June 21st includes: (1) Annual Address by the President at 12 o'clock. (2) "Obstetrics: Thirty Years' Experience in a Country Practice," by Dr. William Child, of New Hampton; discussion will be opened by Dr. J. W. Parsons, of Portsmouth. (3) Oration: "Homoeopathy," by Dr. George H. Sanborn, of Henniker; discussion opened by Dr. I. G. Hill, of Dover. (4) "Newmarket's Epidemic of Diphtheria in 1885 and 1886," by Dr. Charles A. Morse, of Newmarket; discussion opened by Dr. I. A. Watson, of Concord. (5) "Laceration of the Perineum," by Dr. F. B. Perkins, of Londonderry; discussion will be opened by Dr. S. C. Whittier, of Portsmouth. (6) "Report on Therapeutics," by Dr. Luther Pattee, of Manchester; discussion opened by Dr. C. E. Nichols, of Franklin Falls. (7) "Report on Surgery," by Dr. J. H. Cutler, of Peterborough; discussion opened by Dr. W. T. Smith, of Hanover. (8) "Dissertation: The Confidence of the Public in Non-Professional Prescriptions," by Dr. W. S. Leonard, of Hinsdale; discussion opened by Dr. William Child, of New Hampton. (9) "Report on Neurology," by Dr. J. J. Berry, of Portsmouth.

#### OBITUARY.

MARCUS BLOOMFIELD LEONARD, M.D., M.M.S.S.

The death of this gentleman, already noticed in our columns, removed a practitioner of over thirty years' standing in East Boston. Dr. Leonard was a native of Sugar Grove, Pa. He attended the Albany Medical College, and in 1846 came to Cam-

bridge to study at Harvard College. He attended lectures by Dr. Channing, Dr. Oliver Wendell Holmes, and graduated in the class with Dr. William H. Thordike, in 1849. He practised for a time in Worcester, but afterward came to East Boston, where he settled and has since resided. Dr. Leonard was a member of the Massachusetts Medical Society, and was also prominently identified with the Citizens' Trade Association of East Boston.

#### BOOKS AND PAMPHLETS RECEIVED.

Annual Announcement of Dartmouth Medical College. 1887. Transactions of the Rhode Island Medical Society. Vol. III. —Part IV. 1886.

Annual Announcement of the Buffalo College of Pharmacy for the Session of 1887-88.

Case of Herpes Omo-Brachialis. By James I. Tucker, A.M., M.D. Chicago, 1887. (Reprint.)

Feeding Patients against the Appetite. By Ephraim Cutter, M.D. New York: W. A. Kelloge, 1887. (Reprint.)

A Statistical Contribution and a Comparison of Methods in the Treatment of Tuberculosis of the Joints. 1886. (Reprint.)

Dermatitis Venenata: An Account of the Action of External Irritants upon the Skin. By James C. White, M.D. Boston: Cupples & Hurd, 1887.

Seventeenth Annual Report of the Massachusetts Homoeopathic Hospital, and of the Ladies' Aid Association, for the Year ending December 31, 1886.

The Veterinary Service of the United States Army. By R. W. Shufeldt, M.D., C. M. Z. S., etc. Captain, Medical Department U. S. Army. 1887. (Reprint.)

Complimentary Banquet to H. H. Hill, M.D., given at the Augusta House, Tuesday, June 15, 1886. It being the Fiftieth Anniversary of His Continuous Practice of the Medical Profession. Augusta, Me., 1887.

Oration delivered before the Alumni Association of the Medical-Chirurgical College of Philadelphia, on the Evening of Thursday, April 7, 1887. By Dudley S. Reynolds, A.M., M.D., Louisville, Ky., 1887. (Reprint.)

The Scientific Rationale of Electrotherapy. A Revised Paper on the Therapeutic Applications of Electricity. By C. H. Hughes, M.D., St. Louis, Lecturer on Neurology and Electrotherapy, St. Louis Medical College, etc. (Reprint.)

The Gathering of the Waters: or the Evolutions of Seas and Rivers. By D. T. Smith, M.D., Lecturer on Medical Jurisprudence in the University of Louisville, and one of the Editors of the Practitioner and News. Louisville, 1887. (Reprint.)

The Importance of Instruction in First Aid to the Injured. By W. Thornton Parker, M.D. (Munich), of Newport, R.I., late A. A. Surgeon U. S. Army; Member of the St. John's Ambulance Association, England. Chicago, 1887. (Reprint.)

The Scientific Rationale of Electrotherapy. A Revised Paper on the Therapeutic Applications of Electricity. By C. H. Hughes, M.D., St. Louis, Lecturer on Neurology and Electrotherapy, St. Louis Medical College, etc. 1887. (Reprint.)

The Progress and Limitations of Operations upon the Abdominal Cavity. By J. Ewing Mearns, M.D., Lecturer on Practical Surgery in Jefferson Medical College; Gynecologist to Jefferson Medical College Hospital; Surgeon to St. Mary's Hospital, etc. Being the Annual Address delivered before the Philadelphia Academy of Surgery, March 7, 1887. (Reprint.)

### Lecture.

#### THE POSITION OF THE MASSACHUSETTS MEDICAL SOCIETY; ITS RELATIONS TO MEDICAL PROGRESS, TO THE COMMUNITY IN WHICH WE PRACTISE, AND TO ITS FELLOWS.<sup>1</sup>

BY GEORGE J. TOWNSEND, M.D., OF NATICK, MASS.

In obstetrics, the progress which has been made is well marked, and the change in method, in many respects, is well-nigh radical.

In our student days, we were counselled never to carry a pair of forceps with us to a case of labor; in fact, it was considered better that we should not even own a pair. This was to discourage what is called meddling midwifery, as objectionable now as it ever could have been. Yet those of us who have been called, as a last resort, to a patient worn out by days and nights of fruitless effort, and, after a successful delivery with forceps, have seen her succumb, plainly from exhausted vitality, can best realize the danger of a do-nothing policy.

Indiscriminate haste in interference with nature's processes is fraught with evil consequences, often entailing permanent disabilities, while too long delay in affording necessary aid is fatal in its effects.

The happy medium is now inculcated by our teachers, and ably carried out by our Fellows, so that we may reasonably hope that mothers undergo their severest ordeal with a minimum of danger and suffering.

Continued efforts are still made to perfect instruments; but however desirable it may be to have a pair of forceps perfectly adapted to their ends, we should not be allowed to lose sight of the fact that it is of much greater importance that the hand which uses them should be guided by a calm, dispassionate brain, and should be practised and skilled for its work.

In a well directed effort to avert the necessity of a resort to the most repulsive operation in difficult labor, craniotomy, one of our most progressive teachers has most persistently and ably advocated version where forceps have failed. This is a procedure dangerous enough to mother and child, and not lightly to be adopted. Yet it is demonstrable that it often will succeed in safely delivering the mother and saving the life of the child. Should it fail, the dread alternative is still practicable.

In no disease has there greater progress been made, in pathology and treatment, than in that most dread complication of the parturient state, puerperal, now known as septic fever. Less than fifty years ago this disease was accepted as an idiopathic fever, essentially consisting in peritoneal inflammation and not necessarily contagious. The treatment which we were taught in our student days, corresponded with this pathological view, copious blood-letting being the first requisite, the sheet anchor.

Very soon the occurrence of frequent consecutive cases in the practice of one physician after another, attracted attention, and an invaluable paper maintaining its contagiousness was published by a Fellow of this Society; who amongst the flattering homage of the whole literary world, has his crowning glory from our standpoint, in his well-earned reputation as the "faithful teacher." This paper is believed to be the first conclusive argument which had then been pub-

lished proving the fact, that the disease could be, and had been carried from one patient to another by the attending physician. After its perusal, no one could go from a case of puerperal fever, to attend a case of labor, without an inward consciousness, at least, of criminal carelessness.

It was reserved for more recent investigations, to show upon what this contagion depends, and how the hand which is used to comfort and assist becomes the vehicle of death.

Whether or no the germ origin of disease be yet accepted in its entirety, the results obtained by the systematic and rigid application of antiseptics before, during, and after labor, in abridging the frequency of the disease and diminishing its fatality, are simply astounding, and though in the present state of our knowledge we may not hope to see it entirely stamped out, the fact that we can render its occurrence infrequent and that we can abridge its mortality by means within the reach of every practitioner, will enable us all to breathe a sigh of relief.

The convincing incontrovertible paper prepared with most exhaustive care, the result of most exact observations, just published by the senior attendant of our "Lying-in Hospital," a paper which it would be well were it emblazoned in letters of gold and sowed broadcast throughout the ranks of our profession, leaves no longer room for doubt that the disease is the result of septic infection, introduced from without, that germicidal precautions and treatment will prevent its introduction and will modify its consequences when it has occurred.

In the outlying districts of our Society puerperal septicemia is a rare disease. The seed to be developed must fall upon good ground. The more robust frames, the purer air, the simpler habits of life obtaining in those districts are all-important factors conducing to this end. But when it does occur, there is nothing in the whole category of disease more appalling, as all of us can realize, who, after leaving a newly-made mother, safely conducted through her dreaded ordeal, happy in the joys of maternity, have been hastily summoned to her bedside, by the onset of that dreaded rigor, too often the precursor of the final chill of death.

It is now but little more than twenty years since antiseptics was first suggested, and it was at once readily adopted, more especially by our surgeons, its methods carefully studied, its details minutely described and faithfully carried out. An able and earnest plea for its general reception has been made from this platform. Its wonderful results speak for themselves, limiting contagious disease to the individual in which it arises, arresting the progress of epidemics, and rendering practicable operations in surgery, previously regarded as formidable, as they were unsatisfactory in their termination.

In abdominal surgery its value is most readily noticeable. Witness the long list of ovariectomies, without a failure, in the practice of our most distinguished specialists, with a host of other triumphs in general, as well as in abdominal surgery.

There has been a difference of opinion as to the manner in which it acts in preventing disease, and it has been maintained by many that it is essentially only that cleanliness which is akin to godliness. Yet in view of recent developments, antiseptics is generally recognized as, not only the prevention of the presence

<sup>1</sup> Concluded from page 543.

of germs in abraded surfaces, but also the employment of germicides to render them inert should they escape our vigilance.

Its use is now by no means confined to our cities; though the denser the population the more necessary it is to guard against the communication of disease. In the remotest regions it is now habitually employed, and the country physician's satchel is rarely found without a supply of the bichloride, a box of antiseptic unguent, and a nail-brush.

The exclusive use of germicides, in the treatment of all disease, and its triumphant success in arresting morbid processes, is probably a therapeutic Millenium we may never see. For granting that every disease has its specific bacillus the killing of which will arrest the disease, a germicidal agent powerful enough, for that end, would be equally destructive to the organism in which the germ occurs. Yet a growing tendency to the employment of germicidal therapeutics is already noticeable, and the apparent results obtained promise a radical improvement in the treatment of many, especially the zymotic diseases.

We have admitted woman to fellowship in our Society.

Fully realizing the force of the objections urged against this, by many of our most experienced and able Fellows, not believing now, that numerically, she will ever become a large factor in the practice of medicine, we were early confronted with the fact that we had amongst us, conscientious, educated, competent female practitioners, and that they had become such without abating one jot or one tittle of those characteristic, inherent, feminine qualities, which constitute woman's priceless jewels. In the most dignified manner, with the utmost propriety, she asked permission to appear before our censors for examination, that, if found qualified, she might be admitted to our Society, shrinking from no ordeal, however severe, that they might deem necessary to prove her acquirements.

It would seem then that we owed it to our manhood, to our simple sense of justice, to grant her request, and by setting the seal of the Society's approval upon the successful candidates, to enable the public to discriminate between them, and a host of others, amongst whom may be those who are uneducated, unscrupulous, not to say profligate.

There are certain positions which a competent female practitioner, who is also a true woman, is peculiarly adapted to fill and in which her power for good is necessarily greater than that of any man can be. As an evidence of this fact, the good work of the late physician and afterward superintendent of our Female Reformatory Prison, is especially prominent. Her fostering care of the unfortunates committed to her charge and her humanizing influence upon them cannot be overestimated, and we have every reason to believe that the good seed so faithfully sown will bring forth lasting fruits, fraught with good results to the whole community.

But for an accidental circumstance she would probably have become the first female Fellow of our Society, and though now transferred to another more congenial and not less useful sphere, we can but regret her loss to our State.

For similar reasons there is another position which a competent female practitioner is peculiarly adapted to fill, that is, the medical supervision of the female wards of insane asylums, where a large proportion of

the cases, as large as one-tenth, if I am rightly informed, are erotic in their type, rendering the very presence of the opposite sex objectionable. The experiment has certainly been tried with success in a neighboring city.

Our good State enjoys the unenviable distinction of being the paradise of empirics. Aroused by the lamentable consequences of malpractice, resulting in one not very remote instance in the death of the victim and a verdict of manslaughter against his slayer, our Society appointed a committee to procure legislation regulating the practice of medicine. Mainly through the efforts of its indefatigable Secretary a bill for that end was framed and introduced into the Legislature, there to be killed by the strenuous efforts of its interested antagonists, aided by able counsel, and well supplied with the sinews of war. This is perhaps well, after all; for though our State is in a small minority, some twenty-six of our neighbors having enacted such a statute, and individuals must still suffer from maltreatment, the true method of overcoming empiricism, is by demonstrating to the public that only treatment by an educated skilled physician can produce the result most to be desired, the speediest possible restoration to health and usefulness. But by making this move we have at least shown our unselfish desire to promote the welfare of suffering humanity. For, had the bill become a law, in no possible sense could we personally have been benefited by it as not seldom our most profitable practice is in undoing the mischief which empirics have caused.

Brethren, the object of this superficial, imperfect sketch, for the half has not been told, is not mutual felicitation. We have sought only to adduce evidence enough to show beyond the possibility of doubt, that, while many of our master minds have originated improvements which constitute eras in medicine and surgery, the Fellows of our Society in general, each one according to his opportunity, have ever been found in the most advanced ranks of medical progress, abreast of its foremost wave.

The relations of our Society to the community in which we practice constitute a subject much misunderstood, yet of vital importance to our patients as well as of interest to ourselves. We have pledged ourselves to unselfishly give them the benefit of the latest researches, the most advanced thought in medical science, considering their welfare of the first, our own interests of secondary importance. We ask of them in return such reasonable compensation as may enable us to gain our daily bread, and we waive even that, in a host of cases where necessity and destitution may require it. This gratuitous practice necessitates more or less self-sacrifice, for though some of our Fellows are blessed with an abundance of this world's goods, if our professional income were divided up there would barely be enough to go round. And while this fact obtains, many an unblushing empiric acquires a large fortune. For as one of our eminent teachers once said to me, "that physician is a fool, who, if he has no principle cannot make money."

The tendency of many patients to frequently change from one physician to another, is one great obstacle to the systematic and effectual treatment of their cases; an obstacle of more moment to the sufferer than his physician. For though it is by no means flattering to our self-esteem, after we have carried a case through its gravest phases to have it suddenly taken from us

and placed in the hands of some pretentious pathist, who readily asserts that the patient would have saved much time and suffering if he had only been called sooner, in the long run more patients will come to us under similar circumstances than will leave us.

We value our regular families who for one or two generations perhaps always depend upon us for aid in their hour of need, not because we are sure of their patronage and for the liberal fees which await us when our services are rendered and our attendance ceases; not because of the friendships which, however much the idea may have been depreciated in some quarters will spring up and abide between physician and patient; but because, familiar with their surroundings, their habits of life, their idiosyncrasies, we can render them more intelligent and efficient assistance. No physician, however familiar from long practice with the treatment of disease, can afford to lose sight of the weight of responsibility that rests upon him in the management of every grave case in which the issue of life or death depends upon his fidelity, judgment and ability. Any circumstance that will lighten that burden and make the successful issue more sure is of vast importance and is eagerly sought for by us all.

The causes of this tendency in the community are various. Success being naturally the touchstone, by which a physician's ability is tried, the occurrence of one fatal case after another, in spite of his most able and earnest efforts, often drives relatives to seek any change which promises better results, forgetful of the fact that one such disease awaits us all, no human power availing to ward it off.

Impatience of suffering and delay, a constant search after something new — the characteristic of our nation — misleading statistics, loud pretensions of superior methods, of new means, natural and supernatural, all are factors tending to this result, only to be combatted by a diffusion of the knowledge of the true powers and scope of medicine. There is one cause over which we have some control, and the influence of which we can diminish, and that is the too flippant use of the word *cure* — a word which, in its sense of restoration to health, it would be well were it eliminated from medical phraseology, and the fact stated that no patient was ever yet cured of any disease or disability by any medication or surgical operation. Medicine arrests pathological changes, abates symptoms, relieves suffering. Surgery removes foreign growths, adjusts displaced and fractured members, and, after all, in many instances, the patient fails to get well. Take any familiar disease, for instance, say diphtheria: many at first uncompromising cases recover, while another, in which the disease seems to have been overcome, the membrane disappears, the appetite returns, fails to do well, and finally succumbs.

So in ovariectomy, a most unpromising case, with extensive adhesions and other grave complications, gets well, while another, in which everything seems favorable for a successful operation, dies.

This, eliminating that general depressing effect of disease and operations, which is termed shock, is from a deficiency of a certain unknown quantity, which we have but limited means of estimating, and over which we have but little control, and which we call constitution, vitality. Whether this be a distinct principle, implanted in the economy with the breath of life, and growing with its growth, or the aggregate of the inherent

forces of organized matter, as has been ably maintained for and against, within our Society, is of no moment. The final cause is the same: the strength of that principle, the sum of those forces, determines the issue in every case.

The relations of our Society to other physicians in the community seems to constitute a topic which is to be treated very gingerly, and with great caution, for what reason is not apparent, unless, forsooth, because many of them with good social standing have a greater or less following of people intelligent and educated enough in other matters, but lamentably ignorant of the true scope and powers of medicine.

Under our by-laws, we can simply have no professional relations whatsoever with such practitioners, neither in general, in special, nor in hospital practice. In general practice, the language of our by-laws is explicit enough, and it makes no exceptions for special nor for hospital practice. In fact, the attempt of any Fellow of our Society to treat a special organ, while some pathist manages the rest of the system, would be a manifest absurdity. What, for instance, could an oculist do with the specific forms of iritis, while somebody else dealt with the systemic infection?

If, in hospital practice, the wards are kept distinct, there is nothing in our by-laws which forbids our Fellows taking charge of one part of a hospital, while some other physicians take charge of another part. But if the rules of such a hospital require, at any time, a consultation between the members of the different staffs, medical or surgical, no Fellow of our Society can consent to such a consultation without plainly violating his written assent to our by-laws, and imperiling his affiliation to the Society.

Our by-laws forbid such consultations, for good and sufficient reasons obvious enough to any unbiased inquirer, as it is impossible that any benefit could accrue from them, either to the patient, to medical science, or to the consultants. There can be nothing in common between two physicians, of whom the one, fitted by his experience and studies to cull from the broad domain of medical science all the facts which may throw light upon a given case, bases his diagnosis upon those facts, and shapes his treatment accordingly; while the other, having an exclusive theory to maintain, in all consistency, can only accept such facts as accord with his theory, and must reject or ignore all others.

What benefit could the patient derive from such a consultation? No argument is possible between the physicians, and neither of them can conscientiously yield his views. The patient has no new light thrown upon his case which his attendant accepts, no new treatment proposed which he can carry out.

Nothing is gained for medical science; for the more a case is discussed from such opposite standpoints, the wider the difference grows, until the consultants separate with a mutual feeling of dissatisfaction, if not of hostility.

What becomes of our boasted philanthropy when we decline such consultations, and refuse the benefit of our advice to a sufferer? We do not decline to aid any sufferer, as far as our time and strength will allow; but, as the responsibility of life rests upon us, we only ask that we shall meet one who is willing to see the force of our reasoning, and, assenting to it, will faithfully carry out our suggestions.

We have expelled from our Society, Fellows who

profess to cure diseases by any exclusive method, any pathy, and a howl of indignation at our uncharitableness and illiberality echoed from one end of the State to the other, which was as unreasonable as it was uncalled for: uncalled for, because we have ample and unquestionable authority to manage our own affairs, to establish our own by-laws and enforce obedience to them without outside interference or criticism; unreasonable, because the main point at issue has been either entirely misunderstood or wilfully ignored. Submission to the will of the majority is the cardinal principle of every organization in a republican government, without which there can be no permanency nor power in it, and our own affords no exception to the rule.

We have adopted a certain standard for ourselves; we are incorporated for certain definite purposes; we have established by-laws to enable us to carry out those purposes; we have provided a way to change those by-laws from time to time as expediency may dictate; we require all Fellows to comply with them, and we allow any Fellow to sever his connection with the Society, at his own will and pleasure, provided only that he has paid his dues and has made a written application giving his reasons therefor. When a Fellow openly and avowedly violates our by-laws with which he has agreed in writing to comply, and he becomes guilty of practices forbidden to Fellows, his conduct viewed by any standard of honor and probity, is unworthy an honorable physician and Fellow of this Society. It is simply giving the lie to his written promise. For this, because they deliberately violated their written word and sought to weaken and subvert an institution which they had promised to sustain, have Fellows been brought to trial, and when found guilty have been expelled from the Society; and not from any personal nor professional hostility to them. No other course was possible consistent with our self-respect and our regard for the permanency and influence of our Society.

Other physicians viewing these objects from a different standpoint, have organized societies professing certain methods of treatment and practising more or less consistently, according to those methods. With these we have no concern. We have no right even if we have the inclination to criticize them, much less to assert that they are dishonorable or unworthy practitioners. Our professional differences are irreconcilable, but there need be no personal nor social antagonism between us, any more than between others who hold opposite opinions upon various subjects.

The relations of our Society to its Fellows comprehend our mutual relations to each other. Our first duty, if we wish to promote the integrity and influence of our Society, is to guard well its portals, to see that none but good men and true enter there. The committee, appointed by our councillors, have with much labor prepared an exhaustive list of medical schools, which have given evidence of honest, faithful work in fitting students for our profession, and this list has been accepted by the council. A diploma from one of these schools, or its equivalent, is a prerequisite to an examination for fellowship required from every candidate. Yet there are Fellows of our Society to-day by no means necessarily incompetent physicians nor is the date of their admission remote who cannot show such a diploma or its equivalent. This is an evidence of laxity in discharging their duty

on the part of the censors who passed them, plainly forbidden by our by-laws. Though our Society thus far may have suffered no detriment from this, a continuance of the practice is clearly an injustice to those candidates who have complied with our requirements, and opens the door to others in the future who may be anything but desirable Fellows.

Once admitted to our Society we cannot sever the affiliation of any Fellow without preferring charges against him, and giving him a fair trial, in which he has an opportunity to explain and refute those charges. It is evident that it would not be an easy matter to convict one of a violation of the by-laws of our Society before he had given his assent to them, and it would necessarily appear that the fault should be laid at the door of the censors and not of the candidate.

Until quite recently there has been no attempt to secure anything like uniformity in the examinations by the censors of our different districts, and instances are not wanting where candidates rejected in one district have, after the prescribed time has elapsed, applied in another, with the hope of receiving an easier examination. The recent move by the censors to establish a definite system of examination throughout all our districts, is in the right direction, securing a practical, honest test of his acquirements to the candidate, one which every practitioner ought to be able to pass, and excluding only those who are clearly deficient in education and therefore incompetent.

One more topic I fear would not pass over, albeit a delicate one. Our organization is essentially a brotherhood. We are banded together for the public weal. Harmony and unanimity are necessary to the attainment of our ends. In the active competition of professional life, a competition which with many of us means a struggle for daily bread, collisions may occur, always fostered and enjoyed by outside parties ever ready to cavil at our profession, the evil effects of which are only to be averted by mutual concession and forbearance. Sharp criticism, disparaging remarks concerning a brother physician, are often thought to be sweet incense to our ears, whereas a greater insult cannot be offered us or our profession. It is rarely, indeed, the case that we cannot offset such remarks by the mention of some act of unselfish and successful devotion on the part of our abused brother.

We have admitted women to our Society. We all recognize her priceless influence in softening the asperities and promoting the amenities of social life, may we not hope for some of that same influence in our professional relations, so that when we are tauntingly asked, when doctors disagree who shall decide? we may answer, the woman.

Brethren, let us close our ranks, progress shoulder to shoulder, banish all personal animosities, do battle only against the King of Terrors and all his attendant miseries, and, though worsted at last in every encounter, with services often unrequited and even unrecognized, gathering consolation in that we have contributed our mite to diminish the sum of human suffering.

Thus may we expect to see our Society acknowledged as the power for good in the community, which it is; commanding the respect which is its due, because founded upon eternal principles of truth and benevolence.

## Original Articles.

A CASE OF ANEURISM OF THE ABDOMINAL AORTA.<sup>1</sup>

BY ISRAEL T. DANA, M.D., PORTLAND, ME.

On the 6th of August, 1886, I was called to Naples, Me., to see Mr. A—H—, in consultation with Dr. John Y. Lord, of that town. Dr. Lord told me the patient had been under his care for a few weeks only; that he had been employed for years in the Cumberland Paper Mills; that his health had been gradually failing for a year or two, till now he was utterly incapacitated from all labor; that he suffered from beating and throbbing about the chest and stomach, dyspepsia, and great nervous disturbance and prostration; while the nature of the case remained obscure.

I found the patient presenting the general and local symptoms mentioned. Age thirty: of previous robust health, and great powers of endurance, having been famous for his long walks through the woods; had had most of the diseases of childhood, and also typhoid fever; maternal grandmother had died of consumption, and his father of heart disease.

He was emaciated, feeble and anæmic; his weight had become reduced from a hundred and seventy-two (estimated) to a hundred and twenty pounds; his stomach was sensitive, his digestion weak, and his pulse very frequent, unsteady, and irritable.

The most prominent subjective symptom was a constant sensation of beating and pulsation in and about the epigastrium. This, while constant, was subject to paroxysmal aggravations, easily induced by mental excitement or physical exertion, and sometimes related, he thought, to gastric derangements. The beating and pulsation were sometimes so pronounced that his wife said "it made her nervous to lie near him in bed." He suffered a good deal from thirst, and from sensations of heat and burning in the epigastric region, with more or less of associated soreness and tenderness. Of late these sensations had seemed to reach lower down, nearly to the level of the umbilicus. At times in rubbing over this region with his hand he would find the tender area to be scarcely larger than a silver dollar. He was subject also to sensations of sinking and faintness referable to the epigastric region. He had never had any fixed vertebral pain of the so-called "erosive" sort, but had had a good deal of pain of a neuralgic character, radiating from the epigastrium, and varying greatly both in intensity and extent.

He gave the following history. In August, 1884, while at work in the paper-mills, he was descending in a friction-elevator containing also a ton of paper. A man who was with him pulled by mistake a rope, removing the friction, and the elevator fell heavily to the floor below, a distance of ten feet. Mr. H. struck forcibly on the small of his back upon a narrow rail, across which his body was balanced. He was conscious of being badly bruised, and felt very sore at the point of the blow both internally and externally, but did not entirely give up work at the time. This remained a permanently weak point growing steadily more and more troublesome. As the months rolled on he observed that his powers of endurance were

waning, and he would get out of breath more easily. His wife also observed that he would get tired quickly, and then would have a feeble and distressed look. He would feel tired first at the very spot of the injury. Though gradually failing he did not give up work altogether till June 25, 1886, when he left the mill and went with his wife to her father's house in Naples.

On examination of the abdomen anteriorly, patient lying upon his back with limbs drawn up and supported, I found, through the thin walls, just above the level of the umbilicus and a little to the left of the middle line, a small roundish expansile tumor, not quite so large as a pullet's egg. Taking it between my fingers of both hands I recognized the fact that the expansion was equable. There was a single impulse related to the cardiac ventricular systole. There was no back-stroke. There was also a distinct blowing sound audible through the stethoscope *gently* pressed upon the tumor. Percussion signs, owing to the rather small size and peculiar surroundings of the tumor, were rather vague.

On examination posteriorly, patient in sitting posture, I found a perfectly distinct independent centre of sound and pulsation, near the level of the twelfth dorsal vertebra. The sound was a double one and rhythmically related to the cardiac double sound. It was as if a miniature heart were there. The sounds were as distinct as those heard over the precordial region. Indeed they seemed sharper, and more intense, and the "booming" quality was pronounced. The area over which the sounds were so distinctly heard was sharply defined, and so limited as to be mainly included within the circumference of the trumpet-end of my stethoscope. Moving the ear upward along the back these sounds grew gradually fainter till entirely lost, the true cardiac sounds were faintly audible in the lower left intra-scapular region, and between these two centres of sound there intervened a region of silence. When I explained the case to the patient he said he had himself become conscious, within a few weeks, of the fact of a new centre of pulsation at the point indicated.

The *diagnosis* was clear. There was a small aneurism of the aorta just at its passage through the diaphragm. It was of traumatic origin. It seemed probable also that secondary inflammatory and possibly degenerative changes had involved the aortic coats higher up than the seat of the aneurism. Possibly some of the phenomena were due to pressure upon the solar plexus or splanchnic nerves.

My *prognosis* was guarded, and on the whole unfavorable. Some relief was however looked for, and in view of the remarkably favorable results, in cases lately reported, from the Bellingham-Tuffnell plan of treatment, some hope was encouraged of at least partial cure.

For *treatment* I advised (1) rest in bed, as nearly as possible absolute, to be maintained for perhaps two months, aconite and belladonna being used, *pro re nata*, for the heat and the irritability of heart-action; (2) a diet of bread and meat, with cocoa, milk or tea, the total of solids to be ten ounces, and of liquids eight ounces per diem; (3) iodide of potassium, in doses of twenty grains, three or four times a day, as best borne. The plan went into immediate operation with the exception of the rigid diet part, which the patient, as I afterwards learned from Dr. Lord, was very unwilling to submit to. In view of this unwillingness, and of

<sup>1</sup> Reported at the annual meeting of the Association of American Physicians, June 2, 1887, at Washington, D. C.

the fact of the immediate and progressive improvement without it, it was not later enforced.

September 1, 1886, Dr. Lord wrote me, "our patient is improving steadily every day. The motion in the abdomen is hardly felt. The pulse has fallen to a hundred. His appetite is reasonably good and nothing which he eats seems to hurt him. He has rested well nights, and in fact has been comparatively comfortable. He is gaining some flesh." Under date of January 27, 1887, he wrote again as follows: "after two months of rest in bed, he began to sit up a little, and gradually resumed moderate exercise by walking. About the middle of November he began to ride out. I think he has gained twenty-five pounds of flesh. He has taken the iodide of potassium all the time with occasional omissions of a day or two. He says he feels so much better while taking it he is unwilling to leave it off." Later reports were in the same strain.

On the 10th of May, 1887, I saw him again at Cumberland Mills, to which village he had returned. His wife said he had been so much better, and was feeling so down-hearted at being so long idle, he had commenced the day before to do a little light work at the mills. His work consisted in watching the paper as it moved by him at a given point, and removing any soiled sheets. There was no lifting or other heavy work, and sometimes there would be nothing to do for twenty minutes at a time. I was waiting at his house for him when he came home to dinner. His wife was with him and he had been walking perhaps the sixteenth of a mile. He was slightly out of breath with the effort of walking, and remarked that the mere announcement that I had come out to see him, though he was glad to see me, had made his heart palpitate. His weight was a hundred and fifty-one pounds; pulse a hundred, even, and fairly strong; tongue clean and appetite good. He was somewhat anemic, his nerves were easily disturbed, he was slightly dyspnoic on moderate effort, and palpitation was easily induced, but he had greatly improved since my first visit to him.

He gave the following account of himself. After my visit of August 1st, he had staid in bed for two months. In about three days after beginning the treatment the thirst and burning at the epigastrium suddenly left him. In October, when he began to get up, the heating and palpitation were greatly reduced. Since then they had largely subsided till now most of the time he does not notice them at all. He said that he was entirely free from them for weeks in the early winter, till in January he was thrown from a sleigh, after which he suffered more or less from them for several weeks. Exertion, excitement, or worry brings them on slightly. They have from the first been worse on waking in the morning, and he has been most free from them in the evening. Even within a few days, while considering the question of resuming work, he has had to sit up in bed, on waking, with heart-beating. The throbbing and tenderness, which he used to feel at the site of the aneurism, are only rarely and slightly felt now. Sometimes these sensations seem to him as if moved a little higher up, but his fingers recognize the aneurismal mass in the old spot. When he began to get up after his bed-rest, he could not at first bend directly forward to pick up anything from the floor, but had to get at it sideways. Now he can pick anything up naturally. He says he little thought at one time he should ever be as well as he now

is. He called my attention to two swellings at the base of the neck one on each side, just above the clavicles and near their sternal ends. His wife said if he gets cold and coughs hard, they swell to be as large as half-hen's eggs. They appear like sacular dilatations of the jugular veins.

On examination anteriorly, the aneurismal mass was found *in situ*, and not increased in size, while both impulse and expansion were diminished, and the blowing sound was but faintly recognizable through the stethoscope. On examination posteriorly, the independent centre of pulsation and double sound was found as before, but both motion and sound were greatly reduced in amount, and the "booming" quality of the sound was gone.

My conclusion as to the present condition is that a partial cure of the aneurism has been effected, the sac having been in large measure filled up with concentric layers of fibrine; also, that an inflammation which probably involved the walls of the aorta higher up than the level of the aneurism, has been largely or wholly reduced. The condition of the patient is therefore immensely improved.

My estimate of the chances of final and permanent recovery is not very hopeful. If the pecuniary circumstances of the patient were more favorable to rest of body and tranquility of mind; if he could live without either working or worrying about the support of himself and his family; and if he could have such recreation and change of scene as he might fancy, the prospect would be improved. But with all such conditions at the best, I should still make a very guarded prognosis. There are too many unfavorable liabilities. Embolism may easily occur; or suppurative inflammation may arise in the walls of the sac inducing pyæmia; or atheromatous degeneration may supervene, invading the aortic coats higher up which have already been the seat of inflammation; or in some other way, more or less direct, the aneurism may yet prove fatal.

#### WAS IT BERI-BERI?

BY G. B. STEVENS, M.D., GLOUCESTER.

On May 13th, I visited at his home in this city the mate of the barque *Charles G. Rice*, which arrived in Boston the day previous from Manilla after a passage of one hundred and twenty days. He was perfectly well when he left the latter port; when about one month out he was taken with diarrhoea, having daily "nine to sixteen discharges of blood and slime." Great thirst began at this time, and continued for the rest of the passage. He drank very largely of the water caught from the ship's houses after rains, and polluted by "chicken dung and tobacco juice." After the diarrhoea had lasted for two months, he began to "feel tired in the calves of the legs"; three or four days later, that is, one month before arrival in Boston, he noticed, while sitting on the rail with his legs hanging, that the right leg below the knee was swollen. The left leg began to swell a few days later. One week before arriving in Boston the penis became edematous. The edema of the scrotum, which appeared three or four days later, would nearly disappear during each night. The diarrhoea had lasted up to this time, though during the latter part of the voyage the discharges averaged but two to four a day. This, he

thinks, may have been due to the better quality of the water, as they then used in part that stored in the butts. He never had any vomiting, but a disrelish for food, almost amounting to loathing. They had a plenty of fresh poultry, and canned food carried from the States a year and a half before. He did full duty until the last four days, and during that time did not give up entirely.

I saw the patient an hour or two after his arrival in this city. He was sitting up; through breathing his native air, perhaps, the anorexia of the sea-voyage had given place to a craving for food, and already preparations were making for the first meal in his old home to be of Gloucester's great food-product. He told me he had the "dropsical scurvy." This, he said, was the opinion of the captain, who had suffered similarly on a previous voyage, and at an English hospital this name had been given to the disorder. Looking for scurvy, I found no bleeding or sponginess of the gums, no ecchymoses in the cutaneous surface, no history of hæmorrhages excepting with the intestinal discharges. The dropsy, however, was evident enough. It was most noticeable below the trunk. The genitals were enormously swollen. The feet and legs were oedematous, pitting slightly on pressure. The left thigh was less swollen than the right. There was oedema over the pubes. The backs of the hands and wrists were somewhat puffy. The face appeared to be slightly swollen symmetrically, but there was no puffiness about the lids. I found no evidence of ascites, of pericardial or pleural effusion. The appearance of the face was that of plethora, and not of anemia. The pulse was between 90 and 100, and somewhat irregular. The tongue was clean and moist. The bowels were acting four or five times daily, and the impulse to relieve them came very suddenly, and had to be quickly responded to, or the discharge would be beyond control. The urine was scanty. Thirst was extreme, and the appetite had become great. He said he was "well all but the swelling," which was very inconvenient.

He was ordered to bed, allowed to satisfy his appetite at first, but told that it would soon be restricted.

On the day following he was put on a diet of milk porridge with bread, and ordered three times a day fifteen minims of tr. digitalis with potass. acet. and gin. Dover's powder was prescribed for the diarrhoea. The next day, the 15th, a specimen of the urine was examined: the color was dark; the reaction, strongly acid; the specific gravity, 1.015; no albumen was found. On the 17th, diuresis had begun, but was not continuous. A specimen of the urine examined was pale, acid in reaction, of the specific gravity of 1.014. No albumen was found, nor anything abnormal under the microscope. Half an ounce of the infusion of digitalis three times a day, and an infusion of broom-top were substituted for the diuretic mixture first ordered. The porridge, he thought, caused a feeling of fullness at the stomach, it was accordingly omitted, and milk, eggs, and bread allowed night and morning, with fish and bread at noon. The appetite was still very large; thirst was great. The discharges from the bowels were thin and somewhat bloody, but were less in number. On the 20th, the kidneys were acting with great energy, principally during the night. The oedema everywhere was much lessened. Pulse 72, full and regular. On the 21st, the oedema was to be seen only in the prepuce. The patient was sitting

up. The broom-top was omitted. On the 23d, the oedema was all gone. The appetite was more natural; thirst was less. The bowels were moving but twice or thrice daily; the discharges contained little blood. After the oedema had gone he complained of numbness in the legs, most marked below the knee, especially in the calves of the legs. Pinching or scratching the skin in this situation produced but little sensation. He never seemed to have noticed this on ship-board, and it certainly was not a symptom in the early part of the time he was under my care. On the 26th, the kidneys were acting freely, but not immoderately. Their secretion showed nothing abnormal. The digitalis was omitted, and fifteen minims of the tincture of the chloride of iron were ordered three times a day. The appetite was quite natural, and a more varied diet was allowed. The bowels were moving twice daily without blood. The patient walked out for the first time on this date, and was discharged.

The lax condition of the skin, even where the oedema had not been great, as, for example, about the hands and face, was very noticeable. A shrinkage, from a partial desiccation of the tissues through the large amount of water eliminated by the kidneys, seemed to have resulted. The patient said he had never been so thin. A pair of trousers, that fitted him four months before, were distended to their utmost when he reached home, and two weeks later they were loose almost to a ludicrous degree. He complained much of numbness of the legs. This seemed to have increased.

The case is not reported as positively one of beri-beri, but I think there is reason to believe it may have been. The dropsy was certainly of an uncommon form, and, in my opinion, was not traceable to the usual causes. On the other hand, the condition of the bowels was unlike that met with in most of the cases of beri-beri that I have read of; constipation has seemed to be the rule. The nervous symptoms, consisting only of impaired sensation in the lower extremities, were a late occurrence.

### Clinical Memorandum.

#### A CASE OF TOXIC SYMPTOMS ARISING FROM THE USE OF COCAINE.

BY EDWIN W. BULLOCK, M.D., HAVERHILL, MASS.

DURING the last few months I have used cocaine quite freely, especially for producing anaesthesia of mucous surfaces. Therefore, the following case of toxic effect from the drug after giving me considerable anxiety for the time being, has seemed to be sufficiently interesting and instructive to warrant my reporting it to the JOURNAL.

Sunday, May 15th, Mr. P., aged 24, came to my office to have tonsillotomy performed. In order to obtain anaesthesia, I employed first, a spray of a four per cent. solution of cocaine (Squibb's four per cent. solution with boric acid being the one used), then, by means of a sub-cutaneous syringe, made six injections of the same solution into the tonsils, at three different points in each.

About two drachms were used in the spray, and forty (40) minims was the whole amount injected. The operation was entirely successful, perfect anaesthesia being obtained and but very little blood lost. At 3 p. m., about four hours after the patient had left my

office, I was summoned in great haste to see him. It seems that about 2 p. m., he was suddenly seized with a very severe headache and vertigo, soon followed by a "burning sensation" in his stomach and nausea but no vomiting. His face became much flushed, respiration quite difficult, and finally delirium came on. When I first saw him he was tossing about in bed in a half-unconscious condition, muttering to himself. I was able without great difficulty to rouse him sufficiently to answer questions, after which he quickly relapsed into his former condition.

He complained of tingling sensations in the extremities, dryness and constriction of the throat, "burning sensation" in the stomach, nausea and intense headache. The pupils were widely dilated, there was some cyanosis of the face, but not of an extreme degree, respirations varied from ten to fourteen, pulse was 126 and very weak. I at once administered about  $\frac{z}{3}$  of brandy, and a few minutes later twenty drops of tincture of digitalis. This was vomited fifteen minutes later.

I then gave a sub-cutaneous injection of five grains of carbonate of ammonia, and applied hot sinapisms to the chest and epigastric region. A little later I again gave some brandy and digitalis, and this time it was retained. In about twenty minutes the pulse grew stronger, beating 115, and the respirations became less labored. I kept on administering brandy and digitalis at frequent intervals, and at 5 p. m., had the satisfaction of seeing the patient drop off into a quiet sleep. Pulse was 105 and quite strong, and respirations 18, while the cyanosis of the face had nearly disappeared. He slept quietly until 9 p. m., when he awoke and stated that he felt much better, but still had some headache. Pulse was 95, and respiration 20. He soon went to sleep again, and slept quietly the greater part of the night. The next morning, the 16th, he complained of a good deal of numbness and tingling in the extremities, intense dryness of the throat, and blurred vision. These symptoms gradually passed off during the day, and by night he was as well as before the attack. On looking up the subject of cocaine poisoning, as far as possible, I have been unable to find any case in which so long an interval occurred between the time of administration of the drug, and the first appearance of the toxic symptoms, nearly three hours intervening in this case.

Then too, the amount of drug absorbed was quite small, the patient only getting about a grain and a half by means of the injection; and allowing that one-half of the amount used as a spray was absorbed, about two-and-a-quarter grains from this source, making a total of three-and-three-quarters grains for the whole amount absorbed.

—Dr. Zschokke, of the University of Geneva, has been making some experiments on tænia, in the course of which he himself, with six students, who volunteered for the somewhat hazardous experiments, each swallowed five cysticerci. The results show the successful propagation of the tænia in every case, except that of one student, who was, at the time, undergoing a copaiba treatment.

—The newspapers report that W. Irving Bishop, the "mind reader," is suffering from a cataleptic attack which occurred last week.

## Reports of Societies.

### THE ONE HUNDRED AND SIXTH ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 7TH AND 8TH, 1887.

THE becoming harmony between nature and her devoted followers, the physicians of the State, was never better exemplified than in the physical environment of the one hundred and sixth annual meeting of the Massachusetts Medical Society, held in Boston on the 7th and 8th of June. The skies were fair, and the sun shone on both days; while, on the other hand, the attendance was good, the programme interesting, and the dinner and its succeeding exercises enjoyable. As of late years, the large hall of the Institute of Technology building was used for the literary exercises, and the dinner was served in the Clarendon Street Rink.

#### AT THE HOSPITALS.

The morning of the first day was devoted to hospital visits, the wards and amphitheatres of the two large hospitals, and of the Children's Hospital, affording, as usual, cases of medical and surgical interest.

At the City Hospital, the following operations were performed: Three cataracts removed by DR. H. W. WILLIAMS, by the Von Graefe method, with cocaine. DR. GAY opened an aneurism of the axillary artery, and ligatured the subclavian, and also did the following: amputation at the hip for hip disease, with extension into pelvis, previous excision; amputation at the hip for necrosis of the femur; imperforate anus; cancer of tongue and lower jaw, removal of anterior half of tongue and half the lower jaw. All instruments were kept in 1-40 carbolic acid, and the wounds were washed with the same. Iodoform and boracic gauze dressings were used.

In the amphitheatre of the Children's Hospital, DR. E. H. BRADFORD performed Kocher's operation upon an ankle of a boy of four, for the removal of carious astragalus; also MacEwen's operation for the radical cure of an indirect, reducible, inguinal hernia in a boy of ten. Several interesting cases were shown in the wards. A girl of thirteen was well of hip disease six years ago. The thigh was flexed upon the body at a right angle, because of bony ankylosis. The girl walked with marked deformity and limp. Six weeks ago, Dr. Bradford did an osteotomy upon the femur, just below the lesser trochanter. The deformity was almost corrected, and the case treated as a fracture of the femur high up. At present she walks with slight limp, the sole of her foot being but from one-half to one inch above the floor when she stands erect. Union at the point of fracture is complete. Two cases of empyema were shown: one a recovery after an incision high up, with resection of a bit of the rib; the other, in which an opening had been made high up, and pus evacuated. The sound was introduced and cut down upon when it reached the bottom of the chest, thus securing drainage and the possibility of free irrigation. Other cases were shown of wry-neck, treated by open incision, hip disease, spinal caries, club-feet, etc.

#### FIRST SESSION.

Shortly after two o'clock on Tuesday afternoon, the President of the Society, DR. THOMAS H. GAGE, of Worcester, called the assembled Fellows to order, and

the exercises were begun by the reading of the first paper, entitled,

#### TUMORS OF THE BLADDER,

by GEORGE W. DAVIS, M.D., of Holyoke.

Dr. Davis referred briefly to the methods of exploration of the bladder — by perineal section, by the supra-pubic operation, by bimanual palpation, and by the cystoscope and electric light — and then, after discussing the symptoms suggestive of a diagnosis of tumors of the bladder, proceeded to consider therapeutic measures. He took the ground that no cystic neoplasms, except of a syphilitic nature, could be affected by medicine, and advocated the treatment of symptoms, and the removal of the new growth when there was no special contraindication.

Dr. C. B. PORTER, of Boston, referred to a case of his own, where great suffering from vesical tenesmus and difficult micturition was completely relieved by the perineal operation, the patient ultimately succumbing to the disease. He inclined to the supra-pubic operation, as it was less dangerous, more easily done, and gave a better chance for exploration. In some cases a perineal exploration might first be made, but it was very difficult in stout subjects.

Dr. F. S. WATSON, of Boston, said that tumors of the bladder were not so rare as the brief mention in the text-books would lead one to presume. He favored the supra-pubic operation, and believed in operative measures, even when there was slight prospect of a cure.

Dr. JOHN HOMANS, of Boston, mentioned two cases where, in performing ovariectomy, he had accidentally cut into the bladder. In both cases the wound was sewn up, and healed without trouble.

The next paper was upon

#### CASES OF BURNS, WITH SPECIAL REFERENCE TO COMPLICATIONS, SEQUELÆ, AND TREATMENT.

by JAMES E. CLEAVES, M.D., of Medford.

The reader cited a series of cases from his practice, from which he derived a belief that treatment should be directed to the following ends: to relieve pain, overcome shock, support the strength, check granulations, aid healing by grafting, avoid cicatricial contraction, and overcome deformity.

Dr. G. E. FRANCIS, of Worcester, said that, from the first moment, every effort should be made to use antiseptic treatment. It was better to die from shock than undergo the torture of prolonged granulation, and suppuration could be prevented by complete antiseptics.

This was followed by a paper on

#### LAPAROTOMY FOR PUS IN THE ABDOMINAL CAVITY AND FOR PERITONITIS,

by JOHN C. IRISH, M.D., of Lowell.

The reader began by a discussion of the causes of pus within the abdominal cavity, illustrating his theme by cases under his care, and drew the conclusion that when there was pus within the peritoneum, the proper treatment consisted in incision, drainage, and antiseptics. In the case of perineal abscess, this would seem indisputable, and it was reasonable in acute general peritonitis, which rarely occurred without the effusion of a purulent fluid. Even in tubercular peritonitis, where, at first sight, incision would appear foolish, brilliant results had been attained; and in peritonitis

succeeding abortion, medical treatment was useless, and laparotomy might afford a chance.

Dr. JOHN HOMANS declared his belief that no abscess entered the pelvic cavity, except it entered from outside. Ovariectomies during peritonitis are usually successful. The procedure advocated by Dr. Irish was the only one possible. In peritonitis succeeding abortion, it was difficult, if not impossible, to effect a cure by any method.

The next paper was entitled

#### FRACTURE OF THE SPINE: ITS IMMEDIATE TREATMENT BY RECTIFICATION OF THE DEFORMITY AND FIXATION BY PLASTER-OF-PARIS JACKET,

by HERBERT L. BURRELL, M.D., of Boston.

Dr. Burrell suggested that there were but three methods of treatment of spinal fracture: the expectant (appropriate to a certain class of cases), the operative (condemned, except in gun-shot fractures), and reduction and fixation (which had yielded some good results). The reader illustrated his remarks by a series of tables compiled from all the cases that had occurred at the Boston City Hospital, and gave in detail two cases occurring in his service at the Hospital, in which he had successfully used the method of fixation [the patients were shown upon the platform]. He drew these conclusions: That rectification and immobilization was a rational method for many fractures of the spine; that almost any risk is justifiable under the circumstances; that if, as has been seen, softening of the cord may occur within forty-eight hours from pressure of fragments, treatment should be immediate; that suspension is but one means of rectification.

Dr. A. N. BLODGETT, of Boston, cited two cases within his own knowledge, and endorsed the views of the reader.

Then followed a paper entitled

#### OBSERVATIONS ON THE PUERPERAL PELVIC LIGAMENTS,

by STEPHEN W. DRIVER, M.D., of Cambridge.

Dr. Driver presented a series of statistics compiled from records of some three hundred cases in his own practice, from which it appeared that, in a large percentage of cases, there was an increase of about one-third of an inch in the pelvic diameters from the relaxation of the pelvic ligaments. From these observations, and from his subsequent study of the pelvis, he deduced the following conclusions: That the presence of the relaxation of the pelvic ligaments depends upon the constitution of the woman; that a certain degree of relaxation is normal; that there may be much relaxation with little lameness, and little relaxation with much lameness; that the lameness depends upon a pathological change; that a small degree, even, may facilitate delivery; that these conclusions may be invalidated by further observation.

Next came a paper upon

#### THE RELATION OF TEA DRINKING TO DISORDERS OF THE NERVOUS SYSTEM,

by WILLIAM N. BULLARD, M.D., of Boston.

This paper exhibited the results of the study of a series of dispensary cases, where the habitual use of tea to such a degree that it might be considered toxic, was evidently a large factor in the production of a variety of nervous symptoms, — palpitation, migraine, nervous irritability, paræsthesia, hysteria, mental asthenia, etc.

This was succeeded by a paper upon  
PULMONARY TUBERCULOSIS AS A SEQUEL TO ORDINARY PLEURISY WITH EFFUSION,

by HERMAN F. VICKERY, M.D., of Boston.

The object of the essay was to show the possibility of a pleurisy with serous effusion being clinically the first step towards consumption; or, in other words, that a man who has heretofore been apparently sound and falls ill with acute pleurisy, may be destined finally to succumb to pulmonary tuberculosis. The reader advocated this position by the citation of authorities and by the result of a series of cases under his observation, and drew the following practical conclusion: that in all cases of pleurisy with effusion, the patient is, long after apparent recovery, in danger of pulmonary tuberculosis, and demands all possible hygienic precautions.

The last paper on the programme,

THE SURGICAL TREATMENT OF CHRONIC EMPYEMAS, by MAURICE H. RICHARDSON, M.D., of Boston, was omitted on account of the unavoidable absence of the reader.

#### EXHIBIT.

At the adjacent building belonging to the Institute, there was held, under the direction of the committee of arrangements, an exhibition of official pharmaceutical preparations, instruments, surgical appliances and apparatus. It was unusually varied, well arranged, and interesting, including a large display of instruments, and several invalid beds and operating chairs.

#### THE CENSORS' CONFERENCE.

The annual conference of censors was held Tuesday afternoon at the Medical Library. Dr. John Crowell, of Haverhill, in the chair. Dr. John H. McCollom, of Boston, was chosen clerk. Reports from various districts were presented, showing a general maintenance of a high standard for admission. The question of the admission of members of other State medical societies without examination was brought up, and the general weight of opinion was strongly in favor of insisting upon an examination.

#### SECOND SESSION.

The exercises of the second day were begun soon after nine o'clock, when the President, Dr. Gage, called to order the Fellows assembled for the business of the annual meeting.

The records of the last annual meeting were read by the Secretary, Dr. Francis W. Goss, of Roxbury, and the annual reports of the Secretary and of the Treasurer, Dr. Frank W. Draper, of Boston, were presented and accepted. From these it appears, that there was last year in the Treasury, an unexpended balance of \$1,767.37; receipts during the year, \$10,516.21; expenditures, \$8,201.00; leaving a balance of \$2,315.21, and there are invested funds to the amount of \$32,420.17, bearing 3 4-5 per cent interest. Dues to the amount of \$55.00 have been remitted. During the year 95 new members have been admitted; 26 have died; 12 have lost their membership by removal from the State; 4 have been dropped from the roll for non-payment of dues; leaving 1,661 members, a net gain of 55 over last year.

A communication was presented from the finance committee of the coming International Medical Con-

gress, inviting a contribution from the Society to assist in defraying the expenses of the congress. It was voted to instruct the secretary to reply to the committee and state that the Society's charter forbade such use of its funds.

Dr. EDWARD H. BRADFORD, of Boston, on behalf of one of the sections of the Suffolk District Medical Society, moved the appointment of a committee by the chair, to investigate the subject of physical culture in our schools and report at a future meeting. It was so voted, and the following were appointed as such committee: — Dr. Z. B. Adams, of Framingham; Dr. E. H. Bradford, of Boston; and Dr. C. F. Withington, of Roxbury.

The literary exercises were then begun anew, by a paper entitled

#### A CONTRIBUTION TO THE STUDY OF THE ETIOLOGY OF THE SUMMER DIARRHŒA OF INFANTS,

by HENRY C. HAVEN, M.D., of Boston.

This paper was in continuation of the reader's paper of last year, and represented conclusions derived from a series of tables compiled from literal copies of the returns of death throughout the State. From them Dr. Haven argued that urban residence, while not without importance in its relations to diarrhoeal diseases, was not a marked etiological factor. The cause was rather to be sought in alterations in the food ingested.

This was followed by a paper on

#### SEPSIS AND ANTISEPSIS IN SUMMER DIARRHŒA,

by S. ALLEN POTTER, M.D., of Roxbury.

The important cause of summer diarrhœa the writer consider to be fermentative changes in the food. For three fermentative processes a specific micro-organism has been found, and possibly one will be for the others. The reader's conclusions, therefore, were, that micro-organisms bear a causative relation to the processes which contribute to summer diarrhœa; that, therefore, antiseptics are necessary in treatment; that antiseptics is to be found not only in drugs but in the environment of the patient; and that there is room for farther study of the subject.

Dr. HAVEN endorsed the reader's views heartily.

Dr. H. J. MILLARD, of North Adams, believed in preventive treatment, in getting good milk from one cow, and in keeping the cow in good condition.

The next paper was upon

#### TRAINING NURSES,

by ALFRED WORCESTER, M.D., of Waltham.

The reader spoke of the need of skilled nursing by the middle classes, who cannot afford to pay the present high prices that trained nurses command. To meet this need, which the large hospital training-schools are unable to do, physicians must themselves train nurses. Dr. Worcester presented in illustration the training-school at Waltham, where a class of seven was graduated last year, which has now a class of eight, and which continues in successful operation. He believed that in the smaller cities and towns, similar schools could be maintained.

Dr. WALKER CHANNING, of Brookline, took issue with the reader, saying that while such a plan might possibly be feasible in the smaller cities, it was impossible in the country, since the only real success is found where there is abundance of clinical material.

Just as no medical school succeeds well outside of a large city.

The concluding paper of the session was entitled  
THE VALUE OF PUBLIC HEALTH MEASURES TO THE STATE,

by SAMUEL W. ABBOTT, M.D., of Wakefield.

This was a paper replete with statistics in reference to Massachusetts and with arguments and conclusions founded upon them. Among other matters, the reader alluded to the fact, that, while one hundred cities and towns in the State have a system of water-supply, hardly half-a-dozen have a good system of sewerage; and yet, in spite of this, the death-rate has slightly diminished. And it has diminished so much in the preventable diseases as even to suggest the disappearance of some of them in time. The average age of death, too, has increased from twenty-seven in 1851, to thirty-three in 1885. Among the recent valuable laws are the food and drug act, the act in relation to water-supply, and the act creating as an independent organization the State Board of Health.

DR. H. I. BOWDITCH, of Boston, after referring to his deep interest in the State Board of Health, went on to speak of the physical condition of the children of the State. Massachusetts stood to-day in a ridiculous and improper position in regard to physical exercises. Hardly a day passed that some young woman or young man did not come to him who had a mind over-stimulated and was dying of consumption. School-masters are constantly stimulating the minds of these young people and neglecting their bodies. It is arrant nonsense—gross stupidity—to go on in this way. How can you have a sound mind if there is no sound body to keep it in? We ought to have some physical exercises in our schools. The children ought to be exercised physically every morning and afternoon, and the exercises ought to be practical gymnastic training.

DR. EDWARD COWLES, of Somerville, superintendent of the McLean Asylum for the Insane, said that his experience in the Asylum led him to think that there was something wrong in the present school training.

DR. ASA MILLETT, of East Bridgewater, said that one cause of the general apathy in the matter, arose from the neglect of physicians to properly inform the people, who are densely ignorant on sanitary matters, in support of which view he cited cases in his own experience.

The following delegates were then introduced by the President, and responded with brief speeches: Dr. Wallace K. Oakes, Auburn, Me.; Dr. William T. Brown, Jewett City, Conn.; Dr. Norman P. Wood, South Londonderry, Vt.; Dr. Philander A. Harris, Paterson, N. J.; Dr. Daniel Lewis, New York City.

#### THE ANNUAL DISCOURSE.

This carried the exercises up to twelve o'clock, and after a brief intermission, the Fellows were again called to order to listen to the annual address, delivered by DR. GEORGE J. TOWNSEND, of South Natick, upon

THE POSITION OF THE MASSACHUSETTS MEDICAL SOCIETY; ITS RELATIONS TO MEDICAL PROGRESS, TO THE COMMUNITY IN WHICH WE PRACTISE, AND TO ITS FELLOWS,  
which is published in full in this and the preceding number of the JOURNAL.

(To be continued.)

#### AMERICAN CLIMATOLOGICAL ASSOCIATION.<sup>1</sup>

##### FOURTH ANNUAL MEETING.

EVENING SESSION, AT 8 P. M.

CAUSES OF CARDIAC FAILURE IN HIGH ALTITUDES, by DR. FRANK DONALDSON, of Baltimore.

The important fact that there is often great dyspnea and sudden cardiac failure on going to high altitudes, has not been sufficiently emphasized. Many patients are sent for general or special reasons to high altitudes, and are thereby done great injury, especially if they suffer from any form of functional or organic heart disease. From some experiments with the pneumatic cabinet, the author had come to the conclusion that this treatment should not be employed in cases in which there is any valvular disease of the heart, or fatty degeneration of its walls. Before being subjected to treatment in the cabinet, an examination of the heart should always be made. It has been asserted that the cause of the cardiac failure in ascending to high altitudes is want of oxygen. The speaker had performed certain experiments with reference to this point. At altitudes within ten thousand feet, there is sufficient oxygen to supply the hemoglobin. In ascending to high altitudes, the pressure of the air within and without the lungs is the same, but on the heart the action is different. The pressure is removed from the outer surface of the heart, while the internal blood-pressure remains the same. There consequently must be dilatation of the heart-walls. This, in the author's opinion, was the cause of the heart-failure under these circumstances.

##### DISCUSSION.

DR. B. F. WESTBROOK, of Brooklyn. I have no doubt that the explanation of the author with reference to the effect of high altitudes on the heart is correct, but in the pneumatic cabinet the conditions are different. Where the patient inhales compressed air, or sits in a rarefied atmosphere and inhales air at the ordinary pressure, there is an absolute or relative increase of pressure within the thorax. The heart is, therefore, submitted to a relatively increased pressure. As a matter of practical experience, I have found that patients with mitral stenosis or mitral regurgitation, with pulmonary congestion, can be put in the cabinet with safety. I should scarcely claim that the same rule could be applied to cases of aortic disease. I should hesitate very much before putting a patient with aortic regurgitation into the pneumatic cabinet. In mitral disease, however, the tendency is to assist, rather than exhaust the diseased heart.

DR. H. F. WILLIAMS, of Brooklyn. Certain New York observers have claimed that in weak heart, particularly the "tobacco-heart," they have obtained with the pneumatic cabinet an effect similar to that of digitalis, due, probably, to a stimulation of the circulation through the coronary arteries.

DR. S. S. COHEN, of Philadelphia. The heart is habituated to a certain pressure of the atmosphere (754 mm. of mercury). When the individual goes into a rarer atmosphere, there is a disturbance of the relationship between external and internal pressure, and this disturbance will necessarily bring upon the patient disease. The inhalation of compressed air in cases of dilated heart has been recommended by Waldenburg and others. I have recently employed

<sup>1</sup> Continued from page 562.

this measure, with beneficial results, in alleviating the dyspnoea and defective circulation due to a dilated heart.

DR. JAMES T. WHITTAKER, of Cincinnati, O. The condition met with in a rarefied atmosphere cannot be compared with that met with in the pneumatic cabinet. It does not seem possible to exert any mechanical pressure upon the heart in the cabinet. The conditions which have been observed admit of easier explanation by a study of the effects on the surface vessels. When the pressure is removed from the superficial vessels, the dilated heart propels the blood easier than before. This is one of the most efficacious means of treating irregular heart. I have used the cabinet for two years, and have seen no ill effects from its use, although I should not subject a patient with advanced cardiac disease to this plan of treatment.

**SOME HOSPITAL CASES OF PHTHISIS: MARKED IMPROVEMENT UNDER GENERAL TREATMENT, WITH SPECIAL REFERENCE TO ALIMENTATION,**

by DR. F. C. SHATTUCK, of Boston.

The cases reported had been treated in the Good Samaritan Hospital of Boston, which is devoted to the care of chronic disease. Many of the patients had been exposed to unfavorable hygienic surroundings. The treatment employed was devoted largely to improvement of the general condition. Search had been made for a specific treatment. If the disease is of a parasitic nature, it is natural to suppose that such a treatment would be of avail. At present, no such method of treatment is known. There are few individuals to whose lungs, at one time or another, the bacillus does not gain access. The fact that certain individuals are affected, while others escape, forces us to believe that there is a predisposition to the disease. The treatment employed by the author had consisted in relieving symptoms, improving the digestion, and the administration of as much food as the patient could take in the natural way. Artificial feeding had not been resorted to, but the patient was fed six or seven times a day. From two to ten raw eggs, with milk, were given daily to each patient. Alcoholic stimulants were not administered to these patients as a routine treatment, but were used only temporarily for special purposes. He had, for several years, been systematically cutting down the quantity of alcohol used in chronic cases, and had seen no reason to regret it. His experience had been that alcohol was not used with sufficient discrimination in chronic cases of diseases. Beef, milk, eggs, and other nourishing articles are more expensive than alcohol, but if they can be consumed in sufficient quantity, they are more useful. In 1883, the amount expended per patient for alcoholic liquors had been \$2.70, while in 1886, it had been only thirty-four cents. The patients received no injury, even if they were not benefited by this reduction. Eight cases of well-marked phthisis were reported, in which a decided gain in weight and general improvement resulted from the employment of the plan of treatment above described. About sixty cases had been under treatment.

**DISCUSSION.**

DR. E. T. BRUEN, of Philadelphia. Of the therapeutic measures under the control of the profession, diet, climate, and suitable hygiene are of principal importance. It is possible, by climatic and dietetic

treatment, to so change the nature of the tissues, that they shall not be suitable culture media for the growth of the bacillus of tuberculosis. I wish, however, to refer more particularly to the use of the Bergeon method by the injection of sulphuretted hydrogen. To antagonize the specific cause of the disease, this method has been a failure, so far as my experience goes. Since February last, I have had under treatment sixty-one cases by this method. Systematic examinations of the sputa have been made by Dr. E. O. Shakespeare. There has been no apparent reduction in the number, or change in the character of the bacillus. This method should be classed among the methods at our disposal for the treatment of this disease. The good effects in my hands have been reduction of temperature, reduction of expectoration, very often a complete suppression of bronchial catarrh, and relief of cough. This leads to improved digestion, and enables the dietetic treatment to be carried out with great thoroughness. Forty-four of these cases showed improvement to a certain extent, the average gain in flesh being about five pounds. In one-half of the cases the temperature has been brought to the normal, while in the remainder, although the temperature has not been brought to normal, it has been reduced two or three degrees. In fifteen cases the results have been negative, but in no case did any harm follow the use of this plan of treatment. The improvement has been most marked where there is considerable catarrhal element. Those cases in which there has been more or less thickening of the lung, with the general symptoms well marked, wasting, loss of flesh and weight, without much rise of temperature, I have found were not specially benefited by the injection of gas. I have had the opportunity of making a post-mortem in one case which had been subjected to this treatment. Although the cavities in the lungs were unusually clean, I did not observe any evidence of cicatrization. With reference to the strength of the solution, I have not found strong solutions at all satisfactory. The best results have been obtained from a solution of five grains of sulphide of sodium, with five grains of chloride of sodium in one-and-a-half pints of water. I have never found it desirable to administer more than a gallon-and-a-half of gas at one time. I insisted that the injection be made slowly, and that one-half to three-quarters-of-an-hour should be occupied. I have not derived as much satisfaction in the treatment of the various forms of phthisis to which I have referred from any method as I have from the injection of sulphuretted hydrogen. I have always tested the breath for the presence of sulphuretted hydrogen. I have had negative results in, at least, eight out of every ten cases.

DR. S. S. COHEN, of Philadelphia. The experience of Dr. J. Solis Cohen and myself differs in some respects from that of Dr. Bruen. We have obtained the most decided benefit from strongly impregnated waters. The best results were obtained in those cases in which the patient had a decided taste of sulphuretted hydrogen, which continued for two or three hours after injection. The best effect has been obtained in those cases in which suppuration is about beginning. Bergeon states that the treatment is directed especially to the suppurative process. In employing this measure, great attention must be paid to detail. In about fifty per cent. of the cases, the condition has been greatly ameliorated. In another twenty-five per

cent. there was slighter amelioration, while in the remaining twenty-five per cent. there was more or less benefit to certain symptoms. I have seen no case in which no results were obtained.

DR. JAMES T. WHITTAKER, of Cincinnati. I have for a month used sulphuretted hydrogen by inhalation, having previously employed it for a month by injection. I began the use of inhalation carefully, and finding it well borne, I have pursued the method more boldly. I now put the patients in the cabinet, and allow them to have all the gas they will take. It has produced no unpleasant results in any case. The effects obtained have been about the same as those resulting from injection. In about one-third of the cases there were no results. I have searched the literature for records of bad results following the use of sulphuretted hydrogen, and have found only two in which a fatal result followed. It has been asserted that the good effect is due to the carbonic acid, but I am entirely incredulous of the effect of this agent.

DR. ROLAND G. CURTIN, of Philadelphia. It has been recommended by Dr. H. C. Wood that the sulphuretted hydrogen be taken by the stomach, using a saturated solution, through which carbonic acid has been passed. I have tried this in four or five cases, and have had the same effects as from injection.

DR. J. H. MUSSER, of Philadelphia. I have used the gaseous injections to a certain extent, but my results have not been as marked as some which have been reported. My best results have been in two cases: one was a case of incipient phthisis, in which the patient gained thirteen-and-a-half pounds in four weeks. The second case has gained eight pounds in four weeks, and has much improved in general condition. I attribute my want of good results, in part, to the want of enthusiasm on the part of those whose duty it is to carry out the details of the treatment.

DR. F. C. SHATTUCK, of Boston. I have used the sulphuretted-hydrogen gas, and in several patients it produced collapse in varying degrees, with weak pulse, nausea, vomiting, and headache. In several other cases, although the treatment was well tolerated, it produced no good effect. In one case of asthma, with chronic bronchitis and emphysema, thirty-four injections of the gas were given. While the treatment did not disturb the patient, it did no good. With the use of the gas was combined the administration of iodide of potassium and other remedies, and the patient recovered in about the same time as on a previous occasion, when the latter remedies were given and no gas used.

(To be continued.)

#### ASSOCIATION OF AMERICAN PHYSICIANS. SECOND ANNUAL MEETING.

THE second annual meeting of the Association was held in the Army Medical Museum Building, Washington, June 2 and 3, 1887.

#### THURSDAY, FIRST DAY. — MORNING SESSION.

The meeting was called to order, at ten o'clock, by the President, DR. S. WEIR MITCHELL, of Philadelphia, who delivered a brief address, in which he referred to the purposes of the Association as being purely scientific, and difficult ethical questions and medical politics as having no place among the works of this

Society. He referred to the great desirability of making the meeting of the Congress of American Physicians and Surgeons, to be called in the autumn of 1888, a success. In conclusion, he reported the death of three members: Dr. Thomas F. Rochester, of Buffalo; Dr. Thomas A. McBride, of New York; and Dr. E. D. Hudson, Jr., of New York.

After the transaction of routine business, the first paper, entitled,

#### CIRRHOSIS OF THE LIVER IN CHILDREN,

was read by DR. R. PALMER HOWARD, of Montreal.

He reported two cases in which cirrhosis of the liver was present in children, brother and sister. He exhibited sections of the organ.

#### DISCUSSION.

DR. WM. A. WELCH. I recall one case, in which I made autopsy, in a case of cirrhosis in a child, twelve years of age. He came from the coast of Africa, and suffered with malaria. Both the liver and spleen were deeply pigmented. The clinical features of the case could not be obtained. Most of the cases of cirrhosis of liver of malarial origin have been reported from the coast of Africa. Very little has been brought forward in this country with regard to the malarial origin of cirrhosis.

DR. F. FORSHMEIER, of Cincinnati. I have seen two cases that may possibly be called cirrhosis. One was that of a child of eight years. At the post-mortem, the characteristic hob-nail liver was found. In this case, I considered the cirrhosis due to syphilis. The second case is now under observation in the Children's Hospital of Cincinnati, the patient being in the last stage of cirrhosis. In this case there is a history of syphilis, and the child has hereditary syphilis of the nervous system. To my mind, it is clear that syphilis is the most common cause of cirrhosis of the liver in children.

DR. WILLIAM PEPPER, of Philadelphia. I have the complete records of a case in which cirrhosis of the liver followed measles in a child, eight years of age. There was no syphilitic history. During the attack of measles there were symptoms of hepatic disorder, as shown by occasional attacks of catarrhal jaundice. Subsequently, the symptoms of developing cirrhosis made their appearance, and death in a comatose condition finally occurred. The whole duration of the case could not have been less than a year. At the autopsy, a typical hob-nail liver was found. The liver had been much enlarged, but it had gradually contracted, so that at the time of death it was of about the normal size.

#### OBSTRUCTIVE SAFETY-VALVE ACTION IN THE HEART AND DIRECT FUNCTIONAL MURMURS,<sup>1</sup>

by DR. JOHN GUITERAS, of Charleston.

In a previous paper on malignant endocarditis, the author had dwelt upon the significance of mitral, direct pre-systolic murmurs, which were proven by the autopsy to be unconnected with any lesion of the mitral orifice. The lesions were those of intense aortic regurgitation. He had attributed the murmurs to the recoil of the blood upon the mitral leaflets, holding them tense against the stream of blood coming from the auricle. In the opinion of the late Dr. Flint, direct functional mitral murmurs were limited to a

<sup>1</sup> To be published in a future number of the Journal.

small number of cases of aortic regurgitation, but the author thought that functional mitral murmurs were not so rare. Obstructive functional murmurs are common in aortic regurgitation.

Pulmonary systolic murmurs are more frequent than any other form of cardiac murmurs. In examining one hundred consecutive cases, he had found, in sixty-two, systolic pulmonary artery murmurs. In these, the murmurs were present during tranquil breathing, or during respiration, in such a way as to produce changes in the pulmonary circulation. If account is taken of the bruits heard in this region, the proportion becomes greater. The clearness with which these murmurs are heard depends upon the proximity of the artery, the thinness of the chest-walls, the nature of the surroundings, and finally, the proximity of the main trunk to the capillary distribution. Systolic pulmonary murmurs can be developed in the majority of healthy individuals, if we exclude those with thick chest-walls, and those who are not intelligent enough to modify their breathing as directed. The author held that such a murmur was a dynamic, obstructive, valvular murmur, and is produced by the effect of changes of blood-pressure upon the semi-lunar valves. A certain degree of pressure in the artery must tend to prevent the opening of the valve. This causes a slanting position of the valves and a narrowing of the orifice, with the production of a sonorous whirl. The fact that such murmurs are not more frequently developed at the aortic orifice is due to the greater power of the ventricle, and the wider distribution of the systemic circulation. There are, however, cases in which increased arterial tension is expressed not only by accentuation of the aortic second sound, but by an aortic systolic murmur. He had heard it in atheroma and in Bright's disease, where there was no marked anemia. Pulmonary-artery murmurs, as heard in ordinary breathing, are confined to the expiratory act, and are loudest at the beginning of the act. The murmur is sometimes only heard with the first beat that occurs with expiration. In order to further develop this murmur, it is only necessary to arrest respiration. It is better to stop breathing during expiration, especially at the end of normal expiration. A full expiration makes the murmur louder. At the end of inspiration it is more difficult to develop the murmur, for several reasons: (1) because it requires entire arrest of respiration to produce engorgement of the main trunk; (2) because prolonged inspiratory effort is accompanied by a continued hum of the intercostal muscles; (3) because the expansion of the lung interferes with the transmission of any murmur that may be present. A slight murmur is frequently heard in inspiration if the arrest of breathing is pushed far enough. The speaker asked: Are we not justified in assuming that there is a safety-valve action in this attitude of the pulmonary valve, which, together with the leakage at the tricuspid orifice, tends to prevent engorgement of the lungs by retardation of the flow of blood in the systemic veins, so that, continued for a time, it does no harm? In reference to the murmurs of anemia, the author thought that they were due to some disturbance of the valvular apparatus. In this condition, there is a marked reduction in the quantity of blood. The valves require a certain amount of expansion of the vessels, in order to allow them to apply themselves to the walls. Venous hums and basic murmurs, he thought to be of valvular origin.

#### DISCUSSION.

DR. A. L. LOOMIS, of New York. Many different explanations of murmur within the heart cavities have been given. We should recognize that they are due to many different causes. Many are obstructive in character while others are due to the impinging of currents of blood upon each other in the heart. They are also due to the force with which the blood current is carried from the heart into the vessels. They are also due to or greatly intensified by the condition of the blood. It seems to me that they may also be due to irregular action of the heart produced by nervous condition. The obstructive mitral murmurs referred to are, I think, of frequent occurrence in connection with aortic disease where there is dilatation and feebleness of heart power, but on autopsy I have always found such changes in the mitral valves as seemed to me to account satisfactorily for the murmur heard. I have heard the murmurs so readily produced during respiration, but when these murmurs have been persistent I have always found conditions of anemia and failure of the right heart. It seems to me that the explanation is either anemia or failure of heart power. I think that we shall, as we study the cases more, find that they are due not so much to changes in the valvular orifices as to changes in the heart cavity, and in the heart walls. Murmurs have come to be of very little pathological significance to me unless there are other changes associated with them. The worst cases of heart disease that I have met with, have had the simplest and least distinct heart murmurs.

DR. E. T. BRUEN, of Philadelphia. In a case of anemia which I have recently studied, the blood corpuscles were reduced from the normal to 1,800,000, with a great reduction in the hemoglobin. There was also great relaxation of the vascular system, so much so that as the arm hung out of the bed, there was a venous pulse at the back of the wrist. This was attributed by Dr. Osler and myself to relaxation of the capillary vessels to such an extent as to permit the systolic impulse of the left ventricle to force the blood through the capillaries into the veins. There was no venous pulse in the neck. In this case there were murmurs at each of the valves of the heart. As the anemia improved and the crisis of the blood was restored, the venous pulse disappeared, and the murmurs gradually lessened and the man has now no murmur whatever. This case is corroborative of the view of the author that in anemia the murmurs are due to some functional disturbance of the valve.

DR. F. P. KINNICUTT, of New York. It has been claimed by certain observers that pulmonary systolic murmurs are transmitted from the mitral valve into the auricular appendage. The condition required that this may occur is said to be dilatation of the appendage causing it to approach the chest wall. In some anatomical examinations made a few years ago, I found that in the normal condition the auricular appendage was concealed beneath the pulmonary artery and when fully dilated, its tip only could be seen beyond the edge of the artery. It was even then one-and-a-half inches from the internal surface of the chest.

DR. F. C. SHATTUCK, of Boston. When auscultation was first introduced, all cardiac murmurs were considered of bad omen. It was then discovered that many systolic murmurs were practically of no importance. We are now finding out that all diastolic mur-

murs are not of evil import, and that they may be transitory and functional. A murmur by itself is next to nothing, there must be something beside the murmur to make it of much importance. The author has stated that in anemia there is a reduction in the quantity of the blood. I would ask, is not the reduction more in the quality,—a corpuscular reduction and a reduction in the capacity of the corpuscles for carrying hæmoglobin?

DR. SAMUEL C. CHEW, of Baltimore. With reference to the diagnosis between aortic, regurgitant and mitral direct murmurs, I would say that I think that the diagnosis can usually be made by attention to the following points. An aortic diastolic murmur, although it may be intense at the apex, becomes manifestly louder as we reach the right side of the sternum in the second intercostal space. It will then occupy the whole diastole. If the murmur is mitral in origin, it generally will be presystolic, and will be also heard in the scapular region. The aortic murmur is not apt to be heard in the latter situation.

DR. BEVERLY ROBINSON, of New York. I have occasionally found in acute strain of the heart, not necessarily brought about by great muscular exertion, murmurs which unquestionably had nothing to do with organic changes in the heart, and cannot be explained as due to any special modification in the blood. The murmurs seemed to be due to more or less acute dilatation or obstruction of the mitral orifice. These murmurs I think, have considerable prognostic importance, for if they do not receive careful attention and proper treatment, they may continue for a considerable length of time, and then become of more or less grave import.

DR. ISRAEL T. DANA, of Portland. I have had under my observation two sisters, one forty years of age and the other thirty-three. The mother died of organic heart disease. Both of these sisters have had a mitral regurgitant murmur. In the elder sister the murmur after remaining for five or six years, disappeared. It remained absent for one or two years and then returned and has continued for the past two or three years. In the second case, the murmur after having been present for five or six years, disappeared and has since remained absent. I would ask if it is possible that a murmur connected with organic heart disease should disappear with improvement of the health and reappear when the health again fails?

#### PNEUMATIC DIFFERENTIATION,

by DR. HOSMER A. JOHNSON, of Chicago.

In the absence of the author the paper was read by the secretary. The author had compared the results obtained by the cabinet with those obtained by the Waldenburg apparatus, and he held that the former accomplished no more than the latter. The pneumatic cabinet he considered cumbersome and expensive, with nothing to especially commend it in the treatment of pulmonary diseases.

The last paper of the morning session was entitled

#### METHODS OF LITERARY RESEARCH,<sup>2</sup>

by DR. JOHN S. BILLINGS, U. S. A.

The author referred to the best way of using libraries with especial reference to medical literary work. He also spoke of the great importance of carefully prepared catalogues of books.

<sup>2</sup> To be published in a future number of the Journal.

#### AFTERNOON SESSION.

##### THE ANTIPYRETIC TREATMENT OF FEVER,

by H. C. WOOD, M.D., of Philadelphia.

In order to make the matter as brief as was possible, he had prepared certain propositions which he would read, and then give what he thought to be the proof of their correctness.

*First*, "Fever is a disturbance of calorification in which through the influence of the nervous system heat-dissipation and heat-production are both affected. If there be a fever which is produced by the direct action of a poison independently of the nervous system we have at present no proof of its existence." If an animal's temperature rises, there must be a certain number of heat-units used in producing that rise. If the temperature falls there must be a corresponding lessened production of heat. In his experiments the agent used to produce the fever has been the pyrogenic principle found in ordinary commercial pepsin. After the substance has been introduced the animal is put into a calorimetre. The animals used in the experiments have been dogs. In the normal animal heat-production and heat-dissipation are correlated functions. When the poison is injected it is found that heat-dissipation increases at the time that heat-production is diminishing, so that the fall of temperature was in part the result of heat-dissipation, and in part the result of diminished heat-production. It is impossible that there should be this wide disturbance of these two functions simultaneously, unless the poison which produces the fever acted upon some one central organ, and that must be the nervous system. McCallister, of London, while believing that fever is often produced through the nervous system, thinks that at times it may be produced by wide-spread tissue change caused directly by the poison, his reasoning being that in the advanced stage of fever the temperature is higher than at the beginning. He says that the time when the poison is at its maximum, does not correspond to the time when the fever is at its maximum. The objections to this argument is that we do not know that the poison of the disease is the direct cause of the fever. The poison which causes the disease in scarlet fever, etc., is probably not the poison which causes the fever. The latter is probably generated in the system.

*Second*, "Heat-production is regulated by a nervous apparatus, our knowledge of which is still imperfect. There is certainly an inhibitory centre which depresses or controls the production of heat. It probably does this by acting upon the trophic cells of the gray matter of the spinal cord. It is possible, also, that there is a centre which when excited, increases tissue change, but its existence has not yet been proven." The speaker then gave a *résumé* of the experiments which he had performed, which in his opinion, proved the truth of the above proposition.

*Third*, "Heat-dissipation is regulated through the vaso-motor system so that vaso-motor paralysis is followed by an enormous loss of animal heat, and under unfavorable circumstances, by death from cold." If section of the cord is made in such a way as to get vaso-motor paralysis without destruction of the respiratory centres, the heat-dissipation rises enormously. If the animal is kept in a temperature of fifty or sixty degrees, it dies in a few hours of progressive loss of heat. If kept in a warm chamber it lives for days.

The cause of the rapid heat-dissipation is the opening of the bloodvessels of the surface of the body.

When these remarks are applied to a study of antipyretics, it is seen that drugs may lower bodily temperature, in health or in fever, by increasing heat-dissipation. In this way act all agencies which cause vaso-motor paralysis. Antipyretics acting in this way may be called false antipyretics. Then it is conceivable that there may be drugs which act on heat-production through the inhibitory nerve apparatus, of which mention has been made. Such drugs may for convenience be called true antipyretics. Aconite, veratrum viride, and drugs of that class, belong to the false antipyretics. Whether or not there are any true antipyretics has until recently been a question which we have been unable to answer. With regard to antipyrine certain experiments made in the University of Pennsylvania, seem to give some positive results. Care must be exercised in these experiments, not to confound a normal defervescence with the action of the drug administered. In the dog, the use of antipyrine diminishes both heat-production and heat-dissipation; the former being diminished more than the latter. It is probable that heat-production is primarily affected. The question arises, whether this result is due to an effect on the circulation? He had found that antipyrine had no effect upon the circulation. The blood-pressure was uninfluenced by its administration. He therefore concluded that the action of antipyrine upon the bodily heat was entirely independent of any action upon the circulation, and the probabilities are of course that it acts through the nervous system. Beyond this our present knowledge does not extend.

#### THE TREATMENT OF TYPHOID FEVER BY ANTIPYRINE AND THALLIN.<sup>2</sup>

by FRANCIS MINOT, M.D., of Boston.

The following conclusions were reached. (1) Both antipyrine and thallin have a remarkable power of reducing the temperature in typhoid fever. (2) In no case was the use of these refrigerants apparently followed by any unfavorable effect upon the course of the disease. (3) The general condition of the patient was more comfortable after taking antipyrine and thallin, which were often followed by sleep. (4) The refrigerant medication by antipyrine and thallin appears to have no specific or decided effect upon the course or issue of typhoid fever. It often contributes much to the patient's comfort, perhaps indirectly promotes his safety. (5) The effect of antipyrine and thallin in promptly lowering the temperature shows that the danger in typhoid fever does not consist in high temperature alone, and that the latter is rather an index of the violence of the abnormal condition which we call fever, though perhaps adding somewhat to the danger. (6) By the internal use of antipyrine and thallin all the effects which are claimed for the treatment of typhoid fever by the cold bath are readily obtained without the trouble and inconvenience of the latter method, and without exposing the patient to the dangers of exhaustion and shock consequent on the fatigue of removal from bed. (7) These remedies may be given without danger to the youngest patients, in suitable doses, and indeed their beneficial effects are more decided and the unfavorable consequences are less observable than with adults.

<sup>2</sup> To be published in a future number of the Journal.

#### DISCUSSION.

DR. I. E. ATKINSON, of Baltimore. So far as the temperature-reducing power of these agents is concerned, there can be no question; but, as has been said, we are coming more and more to realize that elevation of temperature is far from being all there is in pyrexia. As regards the relative merits of thallin, antipyrine and antifebrin, I think that the tendency to chilling after the use of thallin, is decidedly greater than after the use of antipyrine, while the latter is more apt to produce nausea and vomiting. I am disposed to disagree with the statement that the use of these drugs can take the place of the external application of cold water. My experience with the latter measure has been limited. It has recently been reported that one observer abroad has treated two hundred cases in private practice by the use of baths, with a mortality of nothing. In army hospitals he has had a mortality of five per cent., and in ordinary hospital practice a mortality of less than eight per cent. Although with antipyretics we can reduce the temperature at pleasure, yet the duration of the case is not lessened, and in some cases it has been thought to have been prolonged.

DR. H. C. WOOD, of Philadelphia. We must not look upon the use of cold water as acting merely by the abstraction of heat. I am convinced that the action is more than this. It probably exerts some influence through the superficial nerves.

DR. GEORGE L. PEARBODY, of New York. I have found that a certain proportion of cases which do not bear the cold bath will bear the use of antipyretic drugs, while on the other hand, the bath may be used in a certain number of cases in which antipyretics cannot be applied. From clinical experience I have been convinced of the truth of the statement of Dr. Wood, that the cold bath accomplishes more than the simple reduction of temperature. Its soothing effect upon the nervous system is greater than that accomplished by the reduction of temperature by antipyretic drugs. I believe that in many instances the course of the disease is favorably modified by the use of the cold bath.

Another important matter is that since the introduction of these methods of antipyresis, the number of relapses seem to be greater and more fatal.

I understood Dr. Wood to say that antipyrine acted solely by diminishing heat-production and that it did not increase heat-dissipation. I must differ from him on that point. It seems to me that the increase of heat-irradiation from the surface is very great, not only where it produces sweating, but also where it does not.

DR. W. W. WELCH, of Baltimore. I should like much to hear discussed the question how far rise in temperature is an important element in fever and an element which calls for interference on the part of the physician. There is comparatively little evidence that the grave symptoms of fever are referable to the elevation of temperature. There is no doubt that temperatures of 110° to 113° produce serious symptoms, but whether or not ordinary temperatures of 105° to 107°, exert any serious action on the body, is a question which is certainly unsettled. It has been shown that rabbits can be kept in a box with a continuous rectal temperature of 107° for at least two weeks, provided the precaution is taken to keep the box well ventilated and the animals supplied with

moist food. Patients may have a perfectly clear brain and no grave symptoms, with a temperature of  $106^{\circ}$  or  $107^{\circ}$ . On the other hand, there are severe and fatal cases of typhoid fever in which the temperature has never registered a great height. While in most cases there is a certain proportion between the height of the temperature and the severity of the disease, yet there are certain cases where this proportion does not exist.

DR. WILLIAM PEPPER, of Philadelphia. From my experience, I have been disposed to think that antipyrine and antifebrin were superior to thallin; between the two former I have not noticed any marked difference. I have used both largely in a variety of cases and have not seen any of the dangerous symptoms which have been mentioned by some writers. The action of these drugs seems to be purely through the nervous system. I have seen no effect upon the circulation, upon the respiration, or upon the secretions, save that of the skin. Some of my observations have been of interest with reference to the relative value of the external use of cold water and the internal use of antipyretics. In the sudden acute pneumonia of children with a temperature of  $106^{\circ}$  or  $107^{\circ}$ , with initial convulsions, where the prompt and repeated use of cold baths has been without gratifying results, full doses of either of these antipyretics have produced a remarkably successful effect. In a recent case in a child with double croupous pneumonia involving two thirds of the left lung and one-third of the right lung, with a temperature in the rectum of  $107^{\circ}$ , and with repeated convulsions, cold baths failed to relieve the symptoms, although repeated at intervals of three hours. Antipyrine in repeated doses controlled the pyrexia at the beginning and on several occasions during the course of the disease, and after a severe struggle the child recovered. As to the ability of these agents to replace cold baths under all circumstances the evidence is not adequate. In the sudden hyperpyrexia occurring in the course of rheumatism, I am not prepared to accept the view that these drugs are capable of replacing the cold bath. In these cases we have direct evidence that the high temperature is the direct cause of the symptoms, at least of the severe nervous symptoms. I am not one of those who consider high temperature in itself a dangerous symptom. There is no proof that high temperature, provided the high temperature has not induced secondary changes, should be regarded otherwise than as one symptom of the disease. I have had many patients with typhoid fever with a temperature of from  $103^{\circ}$  to  $105^{\circ}$ , who have done perfectly well without any measures directed to the reduction of the fever. We, however, meet with cases in which these temperatures are attended with certain symptoms for which there is apparently no other cause. In such cases we must consider that the hyperpyrexia calls for treatment. I have noticed the effect to which attention has been called, that is, the deep and tranquil sleep which follows the administration of these antipyretics.

DR. GEORGE B. SHATTUCK, of Boston. I have used both antipyrine and antifebrin largely, the former for several years, and it seems to me that antifebrin offers all the advantages of antipyrine without its disadvantages. It has none of the disadvantages which belong to thallin. Three or four grains of antifebrin accomplishes the same results as are produced by a larger dose of the other drugs. The disagreeable

symptoms which some writers have referred to as following antipyrine, are probably due to the fact that they follow the original recommendation and give two grammes of the drug. The same benefit can often be obtained from one gramme, and often from seven grains. With reference to the point suggested by Dr. Welch, I would say that, whether pyrexia is or is not a dangerous feature of the disease, we find clinically, that where a patient has high fever, is irritable, impatient and uncomfortable, the administration of one of these antipyretics or the external use of cold water, produces a tranquil and refreshing sleep, and the patient awakes in a condition much better fitted to continue the struggle with the disease.

DR. J. C. WILSON, of Philadelphia. I am led, from my experience, to agree with other speakers that antifebrin has many advantages over thallin, particularly in its cheapness and in the smallness of the dose. A recent observation which I have made is interesting, as bearing on the question of heat-dissipation. I have lately been treating a case of typhoid fever, in which, from time to time, antifebrin in five-grain doses was given. These were repeated whenever the temperature reached  $104^{\circ}$ . This caused copious sweating, with the usual reduction of temperature, amounting to three-and-a-half or four degrees. On the last occasion, one-ninety-sixth of a grain of sulphate of atropia was given with the antifebrin. No sweating occurred, and the temperature was reduced only one-and-one-half degrees.

DR. JAMES T. WHITTAKER, of Cincinnati. I would differ from the gentlemen who seem to accept the view that fever is a neurosis. We have, I think, no proof that the nerve-centres are distinctly irritated, and we have no proof that the agents which reduce fever act directly on the nervous centres. Is it not more probable that the antipyretic action is really an antimicrobial action? We have some observations which go to show that the disease is caused by bacteria, or, if not directly by bacteria, by some of their products, the ptomaines. Would it not be more rational to study the habits of these bacteria, and address ourselves rather to the removal of the cause than to the counteracting of the effects?

DR. H. M. LYMAN, of Chicago. With regard to antifebrin and antipyrine, my experience has been that of previous speakers, and my preference for the former drug is growing. I am disposed to regard their great value as proceeding not so much from their power to reduce temperature, as from their general effects, especially upon the nervous centres. I regard them as valuable adjuvants in the treatment of disease, largely from their hypnotic and tranquilizing effect upon the nervous system, to which allusion has already been made. I have observed that in many instances where, in abrupt febrile affections, relief has not been secured from antifebrin and antipyrine, this failure is frequently due to the presence of the condition we call rheumatic, and there salicylic acid gives the relief that we fail to get with antipyretics.

DR. JOHN GUIERAS, of Charleston. I have had some experience with these drugs in the treatment of the continued fevers of warm climates, but here the results have been rather negative, and have showed the advantage of stopping their use after they have been continued for a certain length of time. I have been called in consultation where the drug has been continued for ten or fifteen days, each time that it was

given producing a certain reduction of the temperature, but having no permanent benefit, and the patients have begun to improve as soon as the drug was stopped. It has seemed that, when given continuously in this way, they have an effect on the vaso-motor system. The pulse is weak and dicrotic, and I have considered it advisable to give digitalis. The effect of cold-water baths in these continued fevers of the South has seemed to me more beneficial. If continued for two or three days, they often favorably modify the course of the disease.

DR. GEORGE L. PEABODY, of New York. With reference to the point suggested by Dr. Whittaker, there is no question in my mind that a considerable proportion of cases of typhoid fever can be aborted by antiseptic treatment of the intestinal ulcers with naphthaline or resorcine. For the past two years, I have treated all cases coming under observation during the first ten days of the disease with a calomel purge (ten grains), followed by naphthaline in such doses that, at least, seventy or eighty grains are taken during the twenty-four hours. Under this treatment, I have without doubt succeeded in aborting many cases in which the symptoms were quite pronounced. I have not succeeded in cases coming under observation at the end of the second week.

DR. H. C. WOOD, of Philadelphia. In regard to the dissipation of heat by sweating, I would state that in the dog on which the experiments were made there are but few sweat glands. There are a few in the paws and about the mouth so that there could be no heat-dissipation from this cause. Sweating in man does undoubtedly cause a dissipation of heat. With reference to the possible influence of antipyrine on fever through some action on the bacteria causing the fever, I would state that in the experiments to which I have referred no microbes were concerned in the production of the fever which was induced by the pyrogenic principle of pepsin.

DR. JAMES TYSON, of Philadelphia. In a recent case of rheumatism, the temperature suddenly went up to 105° with alarming brain symptoms. Antifebrin in five-grain doses failed to produce any effect. The patient was then put into a cold bath and the temperature of the water gradually reduced to 72°. The discomfort experienced by the patient then prompted his removal from the bath. The thermometer in the rectum showed a reduction of only one-half of a degree, but within the course of half an hour the temperature fell three degrees. I scarcely think that this was a natural defervescence but must attribute it to the effect of the bath. The fall in temperature was followed by a disappearance of all the symptoms, and the recovery of the patient. While I have never seen any serious results from the use of thallin and antipyrine, yet there have been symptoms which caused much alarm to the attendants. I have not seen such symptoms follow the use of antifebrin.

DR. R. PALMER HOWARD, of Montreal. I want to emphasize the fact that internal antipyretics and the cold bath are not equivalents, they are substitutes, and important auxiliaries to the physician. These measures relieve special symptoms but whether or not they shorten the duration of the disease is a question not yet settled. Another important point is with reference to relapse in typhoid fever. This is a subject which requires investigation. I think that every relapse, so-called, is due to the absorption of fresh

poison. It is really a fresh attack. It is really an initial attack. It runs a severe course and often proves fatal.

(To be continued.)

## THE AMERICAN LARYNGOLOGICAL ASSOCIATION.<sup>1</sup>

### NINTH ANNUAL CONGRESS.

FRIDAY, SECOND DAY. — MORNING SESSION.

FURTHER RESEARCHES UPON THE FUNCTION OF THE RECURRENT LARYNGEAL NERVE, BEING A SERIES OF EXPERIMENTS FROM THE BIOLOGICAL LABORATORY OF THE JOHNS HOPKINS UNIVERSITY,

by DR. FRANK DONALDSON, JR., of Baltimore.

At a previous meeting, he had read a paper criticising certain conclusions advanced by Dr. F. H. Hooper, of Boston. The conclusions which Dr. Donaldson reached were: That the constrictors do not cease to act under deep narcosis or suspension of consciousness from any cause; that we do not always obtain abduction on irritation when consciousness is suspended; that the abduction was not reflex, and was not dependent on unconsciousness; that it is with weak stimuli that abduction takes place, and the movement passed into adduction as the stimulus was increased. These results invariably followed, whether the animal was slightly or deeply narcotized, or when the medulla was destroyed, or when local death had taken place. That, after strong or continued stimuli, the abductor muscles became worn out, and did not respond to stimuli.

These conclusions had been strongly criticised, and the present series of experiments were performed to test the correctness of the above views. He had shown that abduction of the vocal bands can be obtained without ether, and that it is a physiological fact that opening or closing of the larynx depends upon the strength of the stimulus. With weak stimuli abduction was produced, while with strong stimuli adduction was caused.

THE ANATOMY AND PHYSIOLOGY OF THE RECURRENT LARYNGEAL NERVE: FROM THE PHYSIOLOGICAL LABORATORY OF THE HARVARD MEDICAL SCHOOL,

by DR. FRANKLIN H. HOOPER, of Boston.

The anatomy of this nerve is now complete and exact, but up to a very recent date, much confusion existed on this subject. To find out why these nerves are recurrent, it is necessary to begin with the embryo. The recurrence is due to certain changes in the bronchial arches, and the descent of the heart into the thorax. At one time in the period of development these laryngeal nerves are straight, but, as the heart descends, they are brought down. The proof of this is found in the abnormal condition of the nerve in cases of irregularity of the great vessels which branch from the aorta. These nerves (at least, in dogs and cats) contain no sensory fibres. The larynx possesses three functions, controlled by three distinct sets of muscles, all innervated by the recurrent nerves. These functions are: (1) Respiration. (2) Sphincter action, which closes the larynx and prevents the entrance of foreign bodies, and plays an important part in expulsive acts. (3) Phonatory action.

Stimuli applied to recurrent nerves produces adduction in certain animals (dogs), and abduction in other

<sup>1</sup> Continued from page 556.

animals (cats). Only a few experiments have been made in man, but, as far as they go, they seem to show that stimulation closes the glottis. Under ether or profound morphia narcosis, stimulation of the recurrent nerve produces opening of the glottis in dogs. Three hundred and twelve experiments were reported. Some of the animals were under the influence of chloral, chloroform, morphia, or ether. Under ether, dilatation was produced with weak currents, while contraction could not be produced with even the strongest current. As the dog begins to come out of the ether, dilatation cannot be induced with any current, while contraction is brought about by currents decreasing in intensity as the effect of ether passed off. A similar effect was observed in one case after the use of a large dose of morphia. After small doses of ether, stimulation produces two effects: first, vibration; second, closure. Under large doses of ether, four effects were observed, according to the intensity of the irritation, vibration, complete dilatation, mixed movement, and closure. After small doses of morphia, chloral, and chloroform, stimulation produces the same effects as after small doses of ether.

## DISCUSSION.

DR. F. I. KNIGHT, of Boston. Such different results are obtained in different animals, resulting from differences in size, weight, and other conditions, that they must be applied with a great deal of reserve to the human being. I saw some of the experiments of Dr. Hooper. In one case, I saw a failure to get the ether effect, which was attributed to the size of the dog. I saw a case in which a huge dose of morphia was followed by dilatation.

DR. S. W. LANGMAID, of Boston. In one of Dr. Hooper's experiments recently made, the skull was trephined and insensibility produced by pressing a plug against the cortex. In this case, dilatation was very marked under stimulation of the recurrent nerve. That is the only case in which I have seen dilatation similar to that which I think Dr. Donaldson describes. In some cases, I found it difficult to say exactly what I did see.

DR. ALLEN M. STARR, of New York. I recently had an opportunity to see, in Paris, some experiments by Charcot on hypnotized individuals. It is well known that, in this state, slight percussion of a nerve will produce contraction in the muscles supplied by that nerve. In one of these cases, slight stroking in the course of the recurrent laryngeal nerve over the trachea, below the larynx, produced such adduction of the vocal cords, and so interfered with breathing, that it became a question whether it would not be necessary to resort to tracheotomy.

DR. F. H. HOOPER, of Boston. We have been trying to get this effect with feeble stimuli, which Dr. Donaldson describes, but have been unable to do so. The only point on which we disagree is with reference to the effect of weak stimuli in unanesthetized animals. I have done a number of experiments, following the method of Dr. Donaldson, but have not gotten his results.

## AFTERNOON SESSION.

## CERTAIN MEASURES FOR THE RELIEF OF CONGESTIVE HEADACHE,

by DR. WILLIAM GLASGOW, of St. Louis.

The most severe symptoms in this condition are the pain and sense of constriction of the forehead. If the

pain is analyzed, it will be found that it is of two kinds: one gives a dull sense of fullness and occasional throbbing over the temple; the other is of the sharp, lancinating character so generally known as neuralgia.

At times, both of these varieties are present in the same case. In the one there is fullness of the vessels, and in the other disordered nerve-action. Both varieties are often due to the same pathological condition of the nasal chambers. During congestive headache, if we examine the nose, we find the cavernous bodies are full and tense. The degree of tenseness corresponds to a certain extent to the degree of headache. The method of treatment which he had adopted during the past four years had been the local abstraction of blood. A knife is not required; a simple prick is sufficient. In many cases the relief is immediate. The operation may have to be repeated in a month or two. He has seen few cases in which permanent relief had not followed a repetition of the operation from two to six times. The amount of blood drawn rarely exceeds an ounce. A number of illustrative cases were cited.

## DISCUSSION.

DR. J. N. MACKENZIE, of Baltimore. The paper goes to prove certain views which I have stated with reference to turgescence of the turbinated bones during the menstrual periods. I think that a number of headaches occurring during menstruation are due to congestion of the turbinated bones. Some years ago, I advised that, in acute coryza, an incision be made in the turbinated tissues with a sharp-pointed bistoury.

DR. C. C. RICE, of New York. My experience is somewhat different from that of the author. So far as chronic hypertrophic catarrh is concerned, I have come to look in these cases of headache for hypertrophy over the middle turbinated bone, pressing against the septum. I have seen many such cases. There has not been much congestion, but simply contact. In these cases I have used the galvanic cautery, and have not tried to draw blood. I have had the best results from this treatment. I think that it is sufficient to cause counter-irritation without bleeding.

DR. HARRISON ALLEN, of Philadelphia. I am more in accord with the last speaker than with the author. The trouble may come from the turbinated bones, but I have attributed it to pressure effects. We know that when the septum is deviated it is usually with the convexity to the left, but if a careful examination is made, it will be usually found that there is in the upper part a deviation in the opposite direction. This brings it in contact with the middle turbinated bone. The proper treatment is to separate the parts. I do not hesitate to etherize the patient, introduce the finger, and push the septum into place. In one case, a lady came to Philadelphia with a complication of disorders. There was astigmatism and also a lacerated cervix. She was under the care of an oculist and of a gynecologist. Each of these gentlemen attributed the trouble to the condition belonging to their special department. She had reflex headaches which was so severe as to lead to a fear of mental aberration. On examining the nose I found the condition referred to above and insisted that the headache was due to the trouble in the nose. I etherized the patient and separated the parts with the finger. The headache entirely disappeared.

DR. C. E. SAJOURS. While the lesions described

by Dr. Allan may be found in a number of cases I am more inclined to consider headaches originating in the nose as due to hyperæsthesia. I think that this is proven by the effect of light cauterization, and the treatment of Dr. Glasgow also goes to show that by depleting the cavity he reduces the stretching and pressure on the nerves and therefore reduces the hyperæsthesia.

DR. F. H. BOSWORTH, of New York. It is a fact that in many cases where we find contact between the middle turbinated bone and the septum there are no symptoms that can be referred to this condition. Judging from analogy we have in no other portion of the body neuralgia caused by the contact of mucous surfaces. In the vagina and urethra, we have mucous surfaces in contact. We may, however, safely say that it is a proper course to pursue to put the nasal cavity into a condition as near normal as possible.

DR. W. C. GLASGOW, of St. Louis. The paper said nothing at all about hypertrophy. No one recommends bleeding for hypertrophies, for these do not bleed. The fulness of the cavernous sinuses is simply the sign of the fulness of the frontal sinuses. I do not regard it as the cause of the trouble. I take blood from this part simply because this is the most convenient place to do it.

#### A CASE OF LEUCOPLAKIA. RECOVERY,

was the title of a paper by DR. W. C. GLASGOW, of St. Louis. It was read by the title.

#### DISCUSSION ON THE TREATMENT OF LARYNGITIS IN PROFESSIONALS WHO ARE UNABLE TO REST.

DR. J. SOLIS COHEN, of Philadelphia, opened the discussion. I do not know that I am any better able to treat these cases without rest than are others. Sometimes a professional will consult me with hoarseness, the result of laryngitis, and want to use his voice in a few hours. The best method to accomplish this that I have found has been the administration of a sharp emetic and then let the patient rest until the time of the performance, sucking pieces of ice and keeping a cold compress to the neck. In chronic laryngitis, I have found nothing of the same service as the use of a weak solution of sulphate of zinc, two grains to the ounce, used in a spray apparatus. In the intervals of the play, the patient may inhale a little compound tincture of benzoin if he finds that he is hoarse. Another remedy of considerable service is the use of a respiratory with turpentine, terebene or eucalyptol, or something of that kind. I sometimes direct the patient to sprinkle a little turpentine on the floor of the bedroom. I am, however, not aware of any special method which is adapted to this class of individuals.

DR. T. A. DEBLOIS, of Boston. I have had some experience with these cases, and have endeavored to keep up the systematic use of sulphate of zinc, but I have found that the hoarseness continues unless the voice is rested. I have occasionally had to treat vocalists who could spare a few hours, and I have found excellent results from the use of nitrate of silver, and the most disastrous results from the use of cocaine. There seems to be a certain amount of relaxation following the use of muriate of cocaine. I think that it may be said that in these cases unless there is rest there is no cure.

DR. BEVERLY ROBINSON, of New York. My ex-

perience with the class of cases under discussion would lead me to believe that so far as the acute cases are concerned there are milder measures than the use of an emetic. I have found under these circumstances that the use of tablet triturates of chloride of ammonium, repeated as often as once every fifteen minutes, is one of the most efficient methods of overcoming the difficulty. For local application I do not think that there is anything better than the carbolyzed spray. In the chronic form of laryngitis in vocalists, I believe that we cannot obtain much information from the appearance of the mucous membrane. In these cases I have often found the membrane red, and this may continue after the trouble with the voice has disappeared. I believe that here the trouble is chiefly in the neuromuscular apparatus. I have found the internal use of a good wine of coca with the application of a faradic current to the neck very useful. The faradism should be repeated once or twice a day.

DR. F. H. BOSWORTH, of New York. I think that there is no such disease as laryngitis, as that term is used to mean an inflammatory process. The seat of the disease is not in the larynx, but I think that it is in the nasal passages. If you apply cocaine to the nasal mucous membrane, causing contraction of the blood-vessels and follow this by the use of chromic acid, thus eliminating the cold in the head, it will usually be found that the laryngitis has disappeared. Relaxation has been spoken of as following the application of cocaine. Although I have used the drug in many cases, I have seen this result in only two, and they were cases of hay fever. My method of using cocaine is to suspend it in fluid cosmoline and direct the patient to spray the nose and throat with it.

DR. C. E. SAJOCS, of Philadelphia. I have treated many cases of this trouble. The action of cocaine in laryngitis is pernicious. I have used it in a four and in a ten per cent. solution, and every time that I have done so, I have had occasion to regret it. In cold in the head cocaine is useful, but it should not be used within four hours of the time when it is desired to use the voice. In the majority of the cases of chronic laryngitis the condition is due largely to fatigue. I have found that the use of quinine and nux vomica internally with the external use of a weak faradic current are the best measures to employ. I also think coca wine advantageous.

DR. W. C. GLASGOW, of St. Louis. In this class of cases, I have devoted myself entirely to the larynx and have not treated the nose. I employ applications of carbolyzed iodine to the larynx. This is a soothing application and relieves congestion. It also acts as a stimulant and enables the person to keep at his work, but it does not cure the condition.

DR. NORRIS J. ASCH, of New York. I think that the best way to treat the acute cases is that which we pursue in other acute cases, which is the treatment suggested by Dr. Cohen, with the omission of the emetic. The employment of muriate of ammonia is useful. I give it in solution in compound liquorice mixtures which contain a little tartar emetic. The chronic cases are more difficult to treat, because the patients cannot quit work. I have found nothing equal the application of astringents. I have used the spray in some cases, but more good is done by the use of the brush. The solution which I most frequently used is one of perchloride of iron, thirty to sixty grains to the ounce. Where a person has to use the

voice in a few hours, a single application will put it in good condition temporarily. Another point to be considered is that those individuals live usually irregular lives, drinking wine and eating heartily. There is therefore nearly always some hepatic trouble which requires attention. I do not believe that it is possible to put the larynx of a singer in perfect order as long as he has to work.

Dr. F. H. HOOPER, of Boston. In these professions there is sometimes an alteration in the quality of the voice the result of over-exertion. Here there seems to be want of tension in one vocal cord. To relieve this I have used electricity outside with the internal use of the aromatic spirits of ammonia, thirty to forty drops in half-a-glass of soda-water.

Dr. J. N. MACKENZIE, of Baltimore. I think that Dr. Brewster is to a great extent right with reference to the dependence of laryngeal disease on nasal trouble. I think that the vast majority of cases of laryngitis are associated with disease of the nasal passages, and upon the recognition of this fact, depends the successful treatment of many cases of chronic laryngitis. While I admit the existence of chronic primary laryngitis, I consider that the majority of cases are due to disease higher in the respiratory passages. I would give a caution with reference to the indiscriminate use of cocaine in diseases of the nose and throat. I should never use it just before a person was going to use the throat. The sensation which it produces in the larynx is only next to that of hanging. In the nose the effect is very pleasant, provided some of the solution does not trickle into the nose or larynx.

Dr. B. F. WESTBROOK, of Baltimore. While it is true that many of these singers and elocutionists suffer from strain and over-work, it is probable that, in the majority of cases, the seat of the whole trouble is in some derangement of the digestive apparatus, which predisposes to these affections. I think, therefore, that an emetic or active purgative is indicated in many of these cases. After the emetic, I give small doses of the mineral acids, frequently repeated, say one or two drops of dilute muriatic or nitric acid, repeated every hour.

(To be continued.)

#### AMERICAN MEDICAL ASSOCIATION.

THIRTY-EIGHTH ANNUAL SESSION, CHICAGO, JUNE 7TH, 8TH, 9TH AND 10TH, 1887.

##### FIRST DAY'S SESSION.

THE Thirty-eighth Annual Session of the American Medical Association convened June 7th, in Central Music Hall, Chicago, with a very large attendance.

Dr. CHARLES GILMAN SMITH, the Chairman of the Committee of Arrangements, called the Association to order shortly after eleven o'clock, when Dr. S. J. McPherson offered prayer. Dr. Smith introduced Mayor Roche, who made the following address of welcome:

MR. PRESIDENT AND GENTLEMEN, Representatives of the Science of Health and Life: In the name of the citizens of Chicago, I welcome you to this city, distinguished for the large number of able and eminent members of the medical profession, and for the exemplification, in all the avocations of life, of the precept: "Whatsoever thy hand findeth to do, do it with thy might." Your mission, to preserve health and re-

move disease, to prolong life and make it a blessing, is a beneficent and noble one, worthy of all honor, and, though you have not yet succeeded in overcoming death, you have robbed it of half its terrors.

The present generation has seen great progress in medical science, and the medical profession, I think, has kept pace with the other learned professions, if it has not even excelled them, in original investigations and practical discoveries for the benefit of mankind. When in health we laugh at the doctors, and sometimes enjoy a joke at your expense. But in sickness you are our hope and refuge, and to the worn and wasted patient, just struggling back to life from the gates of death, you are like "the shadow of a great rock in a weary land."

The interchange of ideas and experience, and the discussion of theories and experiments by large bodies of educated men gathered from different and distant sections of the country, by which the individual thoughts and knowledge of each becomes the common property of all is a comparatively modern outgrowth of Society, and must contribute greatly to the interest and usefulness of the medical profession, being full of promise for the future. These gatherings for mutual comparison and consultation minimize differences, soften asperities, cultivate the amenities, strengthen the humanities, stimulate inquiry and investigation, extend the horizon of mental and moral vision, enlarge the boundaries of human knowledge, and tend to the unification, improvement and well-being of the whole community. Gentlemen, I come here as the official representative of a great and hospitable city, whose latch-string is always out, to emphasize the welcome of Chicago to this large, intelligent and representative convocation of a profession whose chief occupation is to save life and not destroy it, and whose cardinal doctrine is that a sound mind in a sound body is essential to the best performance of the duties of this life, and a great help in fitting men for the life hereafter.

Dr. Charles Gilman Smith then read the programme of the session, and introduced the President, Dr. ELISHA A. GREGORY, of St. Louis, Mo., who delivered the Annual Address, the subject being,

##### CELL ANTAGONISM,

which forms the foundation of symptomatology and pathology, conjoined with cell changes, the basis of pathological anatomy, embracing at once the universe of life and all the possibilities of life, disease being but one of multitudinous phases of life.

In concluding, Dr. Gregory said: I need scarcely remind you, gentlemen, that we shall have with us, after a few weeks, the medical men of all nations. Soon we shall extend the hand of friendship to those with whom we have heretofore been united in interest and sympathy in the cause of science. We know that everything is being made ready and that success is assured. Again you will join me, I know, in the declaration that a hearty American welcome awaits their advent, and that the ninth meeting of the great congress will be memorable in the history of its organization.

##### SANITATION OF EMIGRANT SHIPS.

Dr. A. N. BELL, of the *New York Sanitarian*, read a report on the above subject, which should have been presented at the meeting of the Association last year.

The report dwelt upon the manner in which the laws are evaded, and also upon the incompetency of the physicians who are carried by ocean steamers. The report advocated the appointment of a competent assistant medical attendant upon vessels carrying more than six hundred persons in passengers and crew, and that physicians shall give their services free of cost to passengers and seamen alike, and that medical officers shall be compelled to attend to sanitary examinations of the vessels, and to see to it that passengers' and seamen's quarters shall be kept in a proper sanitary condition; that each vessel shall carry a competent medical steward and a good and sufficient supply of medicine; that physicians of vessels shall be compelled to make a report upon every case of disease or imbecility on boards of vessels of which they have charge to the health officer of the port in which they arrive, in order to prevent the landing of persons who may become charges upon the State. There should be such laws enacted by Congress as would prevent the introduction of diseases which might prove epidemic; also, to prevent the fearful mortality which now occurs among emigrants who are imported to these shores by various steamship lines. A resolution was adopted forwarding a copy of the report to the Secretary of the treasury, to Congress and to the Senate at the next session.

DR. ROBERTS, of Nashville, Tenn., read some resolutions condemnatory of an article in the daily press, which were subsequently tabled.

DR. BRODIE, of Detroit, moved that a section on dermatology and syphilography be created. The motion prevailed.

DR. GASTON, of Atlanta, Ga., from the special committee on inoculation as a prevention of yellow fever, to memorialize Congress, presented the report. From investigations which had been made in various countries the committee had been convinced that there was merit in the inoculation process as a preventive of the epidemic of yellow fever. The committee had endeavored to secure an appropriation from Congress of only \$10,000 to carry on the work, which had been refused.

#### SECOND DAY. MORNING SESSION.

The session was opened with prayer by Rev. Dr. Gunsalus, of Plymouth Church, after which Dr. Charles Gilman Smith invited the members to an exhibition of the police patrol ambulance service on Michigan Avenue, near the Leland Hotel, at nine o'clock.

The Board of the Journal of the Association reported that Dr. N. S. Davis, would continue as its editor during the ensuing year. The paper had been a success. Dr. Davis rendered a full account of his stewardship.

DR. N. S. DAVIS presented the report of the special committee on changes in the plan of organization and by-laws of the Association. It was an exceedingly lengthy document, and the amendments proposed were that the general committee or council should be composed of two members from each State and Territorial medical society entitled to representation by delegates and from the medical departments of the United States army, navy, and marine hospital service. The term of the general committee was fixed for two years. The general committee is named for the nominating committee; the board of trustees is to consist of nine

members, three of whom shall be members of the general committee. Several minor amendments to the by-laws were also suggested.

DR. VON MANSFELDE, of Nebraska, moved to adopt the report, with the amendments to the constitution and by-laws. This occasioned a lengthy discussion upon the question whether amendments to the constitution could be adopted by a *vire-voce* vote. Dr. Bell, of Brooklyn, N. Y., moved that as the question had already been before the Association for one year, and duly considered, that the amendments should therefore be now adopted.

The Association at this stage got into an entanglement of motions, points of order, etc., and the president, though a famous physician, could find no palliation for the muddle into which the meeting had brought itself. Finally, some one moved to table Dr. Bell's resolution. The chair forgot all about this motion, and put the question upon adoption or rejection, which resulted in 272 votes for, and 232 against. The chair declared that a decision had been reached in this matter, and that the amendments had been passed.

The following committee on nominations was announced: Alabama, W. C. Cross; Arkansas, G. C. Ewing; California, J. W. Robertson; Connecticut, W. H. Whittemore; District of Columbia, J. M. Toner; Florida, M. B. Phillips; Georgia, A. G. Whitehead; Illinois, E. P. Cook; Indiana, T. B. Harvey; Iowa, William Watson; Kansas, W. L. Skene; Kentucky, D. S. Reynolds; Louisiana, T. G. Richardson; Maine, D. E. Marston; Maryland, T. B. Evans; Massachusetts, E. W. Cushing; Michigan, William Prodie; Minnesota, J. A. McGaughey; Mississippi, T. A. Trotter; Missouri, J. M. Allen; Nebraska, W. M. Knapp; North Carolina, E. Grissom; New Hampshire, J. W. Parson; New Jersey, Lott Southard; New York, Darwin Colvin; Ohio, X. C. Scott; Pennsylvania, E. A. Wood; South Carolina, Thomas Legarn; Tennessee, J. B. Murfee; Texas, R. W. Park; Vermont, S. H. Griswold; Virginia, L. M. Nash; Wisconsin, J. K. Bartlett; United States Navy, D. Bloodgood; United States Marine Hospital Service, H. M. Goldsboro; Dakota, E. M. Darrow; New Mexico, Russell Bailey.

DR. J. S. LYNCH, of Baltimore, delivered his address as Chairman of the Section on the Practice of Medicine, which was listened to with marked attention.

The address was devoted to a glance at some of the discoveries or pretended discoveries, advances or hoped-for advances in the departments of medical science presided over by the speaker, not of the last year alone, but of the past few years. Antipyretics were discussed, and Dr. Lynch said:

Unquestionably the means of safely reducing and keeping down morbidly high temperatures constitute the most powerful weapons we possess in combating a large majority of the diseases to which mankind is heir. As I grow older and my experience enlarges, I become more and more convinced that fever is the lethal agent which destroys life in almost every disease in which that functional derangement is present. Whether in specific diseases or common inflammations, it is most frequently the morbid high temperature by its wasting destruction of tissue, the arrest of nutrition, and the associated derangements of function that determine the fatal result. Of course, in the so-called specific fevers it is the sole destructive agency.

In consumption (which in temperate climates de-

stroys nearly one-sixth of the population) it is the accompanying fever and its grade which determine the duration of the disease. Ninety cases in a hundred of pulmonary consumption die from asthenia long before the destructive processes going on in the lungs have deprived the patient of a sufficient amount of his respiratory apparatus to destroy his life. He dies, not of apnea, but of asthenia. Even in ordinary inflammation it is usually the fever that kills, and not the destruction of the organ inflamed, while the fever, although perhaps at first directly caused by the inflammation, reacts upon it and continues and intensifies it.

Until a very few years ago we had but a single agent that could be used successfully as an antipyretic, and this was so uncertain and so irritating to the gastric mucous membrane that it often failed us, and still more frequently could not be tolerated in doses sufficiently large to do its work. Indirect antipyretics of great activity we possessed in *veratrum viride*, *aconite* and *digitalis*, but these were too energetically poisonous to be safely used on all occasions. Aporetics—that is, medicines which increased heat-loss—we had in abundance, but these could not be continued long, for, although the nervous system may be protected from the directly injurious effects of heat by them, they did not arrest the too active combustion going on, and the patient died of exhaustion almost as soon as if left alone. We may haic pe on our steam boiler and thus prevent the formation of steam, or perhaps cause its recondensation as soon as formed, but we do not stop the combustion of coal in the furnace underneath. And so, too, we may by bathing, sponging, or sweating, keep down the temperature of the body externally, but the combustion is still going on internally—not quite so rapidly perhaps, but still at a sufficient rate in protracted fevers to produce final exhaustion and death. What we wanted, then, was something more certain and effective than quinine, less disagreeable to the stomach, and less injurious to the nervous system, and free from any poisonous effect, that would put out the fire by stopping combustion—an antipyretic.

With antifebrin Dr. Lynch had had but a very limited experience; he recognized its merits, however.

In antipyrine, with which his experience seems to have been extraordinarily fortunate, Dr. Lynch thinks we have such an agent. He began its use in 1881, in all diseases attended with fever, and his estimate of its value may be inferred from the statement that since that date he has not seen a single person die of enteric fever, scarlatina, or measles, only one of croupous pneumonia (seen too late), and that the duration of cases of phthisis seems to be very nearly doubled. In acute inflammatory rheumatism it seems to be scarcely less efficient than sodium salicylate. The dose should be about one gramme repeated at first every hour until three doses have been taken, and afterward every three or four hours. It is very soluble in water, has a slightly pungent and bitterish taste, and rarely excites nausea. If it should do so, it may be given in lime water or combined with other alkalis.

Strophanthus and sparteine were noticed, but neither of these cardiac stimulants had given satisfaction in the practice of the speaker.

The rest of the address occupied itself with tuberculosis, its nature and treatment. The conclusion was drawn that it is not a contagious and infectious disease, and while it cannot be denied that infection may and

probably does set up consumption in those who have suffered either from catarrho-pneumonia or scrofulosis, we must remember after all that it is bad hygienic surroundings which cause the pathological lesions which constitute the basis of fully ninety per cent. of all the cases of consumption we meet with, and invite the injurious action of the pathogenic microbe which brings to a fatal termination lesions which might otherwise remain quiescent for many years, and even be not inconsistent with a fair degree of longevity. Here, then, is a field in which we can work for the good of our common humanity.

In regard to Bergeon's treatment of pulmonary phthisis by gaseous enemata, Dr. Lynch can report nothing favorable: he thinks there is nothing in it except money to the sharks and charlatans that are unfortunately so numerous in our profession. While the antiseptic or rather the aseptic treatment may have a certain value in surgery and in obstetric, in medicine it must always remain an impossibility. For, admitting all that is claimed as to the agency of microbes in setting up and keeping up disease processes, it must be remembered that they are biologically as high in the plane of life, and, if all experiments can be believed, have a higher resisting power than the cells which compose the living elements of our tissues. Any germicides, therefore, which can destroy the one must inevitably also destroy the other.

After the paper of Dr. Lynch had been read, the general session adjourned to meet at three o'clock in the afternoon.

(To be continued.)

## Recent Literature.

*Dermatitis Venenata: An Account of the Action of External Irritants upon the Skin.* BY JAMES C. WHITE, M.D. Boston: Cupples & Hard. 1887.

"The number of native plants or those introduced into the United States which are capable in some degree of injuring the skin, is, as above stated, far greater than is generally known." This extract may be taken as the text of a book which could only have been written by one who was a trained botanist as well as dermatologist. The introductory chapter gives a clear and succinct description of the various cutaneous lesions which occur in connection with dermatitis venenata, together with directions as to its proper treatment. The rest of the book is taken up with the consideration more or less in detail, according to their several importance, of all substances, to which may be attributed upon trustworthy evidence, the property of exciting cutaneous inflammation by reason of their irritant action upon the human skin. This list includes more than sixty plants; it comprises also, various substances, coming under the head of drugs and chemicals, many of which are applied to the skin with therapeutic intent; and certain animals, such as the medusae and polyps among marine organisms and the various insects, parasitic or otherwise, which are capable of exciting cutaneous irritation. The work is a distinct and valuable addition to the literature of the subject, and much credit is due to the publishers for the excellent manner in which the book is issued from the press.

G. H. T.

THE BOSTON  
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THE TEETH OF LOUIS XIV AND THE REVOCATION OF THE EDICT OF NANTES.

PHYSICIANS of a historico-philosophical cast of mind have often amused themselves with thinking what changes in the world's history might have been made had the maladies of sundry great men received different treatment, and hence possibly experienced a different termination. In a previous volume of the JOURNAL, we have referred to the ingenious speculations of Dr. MacDonnell, in a paper before the Athenæum Club, regarding the diseases of certain English monarchs. James the First died, as it seems, for the want of a shilling's worth of quinine, and the disease from which the much-married Henry VIII suffered might, in the light of modern treatment, have been prevented from affecting his unborn children.

"Catherine of Aragon," says Dr. MacDonnell, "might have been the mother of many Tudors, the Stuarts would never have been heard of, the Reformation would have been postponed, and Henry himself would have been talked of to-day as a model father and husband. Queen Mary's cruel disposition, if not the actual result, was certainly intensified by the disappointment which followed her fruitless marriage. . . . A course of aloes and iron might have changed the course of events in England and Europe." *Per contra*, we are lost in reflection as to what would have been the result had the mothers of the Neros and the Caligulas, on the one hand, or of the Augustuses and the Alfreds on the other, been, in their youth, subjected to the present fashionable surgical treatment for ovarian neuralgia.

This line of thought is suggested by an article in the *L'Union Médicale* for April 2d, by Dr. T. David, entitled "Les Dents de Louis XIV." Its facts are obtained from the reports of the physicians and dentists of that grand monarch. This reign of seventy-two years, the longest recorded in authentic history, fell to the lot of a man of phthisical ancestry (his father died from consumption)—a man who suffered from anal fistula, and who drank deeply of the most exhausting pleasures and vices. Yet he did a vast

amount of work, especially if we include his diplomatic plotting and scheming. It happened, however, that the teeth of the monarch were very unsound. Before he reached middle age, all the teeth of his upper jaw were gone, or reduced to carious stumps. His appetite did not reduce itself in conformity with his diminished facilities for the preliminary treatment of his food. Hence dyspepsia, and from this origin, suspicion, malice, cruelty, and all the foul brood of that dreadful monster. No cunning artificer was at hand to construct the substitute, comely in appearance and admirable in function, for the frail product of nature. Throughout the memorable year 1685 the king suffered from osteitis of the upper jaw, following the extraction of a stump, and to this was added suppuration of the antrum and decomposition of the pus. On one occasion, the actual canter was applied fourteen times in one day to the carious alveolus. Who can fail to see the necessity, in order to overcome the repugnance excited by his loathsome condition in the ladies of the court, of more abundant largess of gold and jewels, and hence, of greater oppression of his subjects to gain the requisite money? A few grains of gold, applied at the proper time and place by a skilful dentist, might have saved the value of millions, which were spent to make the king's attentions endurable to his favorites. The saving of this money would have quenched that spark of discontent, which, after smouldering for a century, burst forth in the flames of the Revolution.

But the great crisis in which the failure of dental and surgical science culminated occurred, according to Dr. David, in October of that year of suffering and self-loathing, when the grand monarch signed the Revocation of the Edict of Nantes, and 400,000 Protestants, secure for nearly a century in their religious liberties, were driven forth from France, to carry the knowledge of all manner of handicraft to enrich the coffers of other nations. Had the king been less foul-mouthed, he had surely been sweeter spoken towards the Huguenots. Little wonder that what he breathed out was threatenings and slaughter!

Fortunately, perhaps, for our peace of mind, it is given to but few of us to bear, as medical men, the undivided and heavy responsibility of the physical welfare, and so of the mental state or intellectual activity of the world's great men. The physicians who failed to regulate the deranged digestion of Carlyle must have been overwhelmed if they had any premonition of the widespread consequences of their failure. When Mr. Gladstone has had an attack of laryngitis on the eve of one of his great efforts in the Commons, the doctor who had charge of his vocal apparatus might well feel that upon his skill rested the political future of Ireland for the next half-century. When Bismarck finds himself getting too "sleek and fat" to be dangerous, and resorts for help to his physician, it makes much difference to European politics whether the latter person succeeds in relieving the chancellor of fifty or of two hundred and fifty pounds of flesh. What wonder, then, that Dr. Schweininger magnifies his office!

## WHY PHYSICIANS SHOULD MAKE CAREFUL NOTES OF THEIR CASES.

THE advantages which accrue to the professional man from making accurate memoranda of his cases, are threefold: first, to himself, second, to his patient, third, to the medical confraternity generally.

The habit is one which is highly beneficial to the physician, leading him to greater accuracy in investigation and in diagnosis, and giving him a better command of all the details of the case. It cannot fail to be of benefit to the patient, for the latter will profit by the greater knowledge which his physician acquires of his malady, and the certainty that a case well understood is better treated. A physician who studiously makes notes, and keeps a careful account of his cases, will be more likely to communicate valuable practical experience to the medical profession, than one who is careless about preserving the important facts that continually come under his observation.

The amount of time requisite for writing such daily observations respecting each patient, as are necessary to give precision and continuity to the record of the case, is not considerable, especially if the record be made about the time of the visit; and a suitable memorandum book for the purpose may always be at hand. Many physicians waste in profitless loafing, hours of leisure which might better be spent in reading up their cases, or in doing something to add to the general stock of knowledge of the profession. Some with mental powers and educational attainments of a high order, get into a careless, slipshod, and haphazard way of diagnosis: devote no time to writing up their cases, and too little time to watching and mastering the symptoms; and suddenly, some morning, awake to a realization, that the supposed case of ephemera was a bad form of typhoid, that the disease diagnosed as pneumonia was pleurisy with effusion, that the simple attack of colic was one of peritonitis, and the trifling case of angina, one of malignant scarlatina.

How much valuable experience is lost to the world, because physicians under whose observation come hosts of rich and varied facts (and under this category we must include great numbers of country practitioners), fail to record, communicate, or even definitely to remember what they have witnessed, is, of course, an unknown, but immeasurably vast quantity.

No better example can be appealed to of what can be accomplished by the kind of industry which we have above commended, than that of the late Dr. Austin Flint, whose whole life was devoted to the perfection of his own powers, the promotion of the highest welfare of his patients, and (as an ulterior but by no means secondary end), the improvement of the profession of which he was a member. The twelve large manuscript volumes of record of cases which he has left, without which his numerous treatises on medicine, now become classical, could never have been written, attest his indefatigable care, diligence and painstaking, all of which, it is true, were supplemented by an almost invariable physical health and vigor.

Many physicians complain of their want of time to accomplish anything outside of their ordinary daily routine of drudgery, but it is a significant fact that those men who have had the least leisure, have done the most good work of the kind to which we have alluded. We refer to the recognized leaders, whose professional duties have always been most arduous and exhausting—the Jacksons, the Brodies, the Watsons, the Trousseaus, the Charcots, the Flints, of medical literature—who have found time amid their pressing labors to record facts of personal observation and experimentation, and compose those works which have been, in an eminent degree, helpful to the present generation of medical men, and will never cease to have an influence on professional opinion and practice.

## MEDICAL NOTES.

—The small-pox has increased, both in the number of cases and in the severity of the malady, in the eastern portion of Cuba. At Havana the cases are few.

—The President of the Key West Board of Health reported by telegraph, under date of June 5th, that "yellow fever has ceased to be sporadic, and absolute segregation of patients in hospital impossible, as friends conceal cases, and violently oppose removing sick; therefore, for these reasons, the Board will declare the disease to be fast assuming an epidemic character." The Secretary of the Treasury has authorized the employment of nurses and guards to assist the Board of Health at the Barracks Hospital. Total cases to June 10th, 22; deaths, 8.

—Dr. I. Vroz, writing to the *New York Medical Journal* from the Virgin Islands, British West Indies, where he has had a large experience with malarial fevers of various types, speaks most highly of the use of permanganate of potash. He says: "Most of the inhabitants of the district where I practised, lived in thatched huts, badly ventilated, with the natural soil for the floor. As the country abounds in rivers, and rain is constant, they were very damp. The food eaten consists of carbohydrates and boiled fish—a diet which, with their surroundings, certainly renders them unfit to resist disease. I was consulted by women with fever and amenorrhœa or dysmenorrhœa due to exposure, and malarial anemia or toxæmia. It was to them that I first administered permanganate of potassium, and it cured them not only of their uterine symptoms, but of their malarial fever also. I afterward gave it to men and children, and with very interesting and successful results. The usual dose was from half-a-grain to a grain, in water, three times a day. In private practice I give five grains of pepsin after the dose, to prevent the nausea, which is the only drawback to the use of the drug. Since my appointment as medical officer of the Virgin Islands, I have been using the same treatment here with good results. I have not heard or read of its having been used before for malarial fevers. As to the *modus operandi* of the permanganate, I will say but little,

and that what I know—namely, that, as a germicide, it is one of the best, and one that is harmless even in strong solutions."

## BOSTON.

—A boy was killed at the "South Cove" Boston, last week, by coming in contact with a wire for supplying a Brush electric light. It is not known whether he took hold of the wire or fell against it. It was carried over a coal shed of the Boston & Albany Railroad and ran from a dynamo operated with an eighteen horse-power engine to supply nineteen lights, each of two thousand candle power. It is said that the wire was not only not insulated but that it was in appearance just like ordinary telegraph wire. The accident happened just before dark at the moment when the light was turned on. The boy was held in contact with the wire several minutes and was burned deeply through his clothing at one point on his leg, with a smaller burn on the neck. He died before reaching the hospital. The employee who finally released him from the wire was himself powerfully effected by the current and did not recover from the shock for several hours.

## NEW YORK.

—On the eighth of June, Governor Hill listened to an argument from Mr. W. A. Purrrington, counsel of the New York State and County Medical Societies, in favor of the bill regulating the practice of medicine and codifying the laws of the State, which was recently passed by the Legislature at Albany. It simply requires that before beginning the practice of medicine in New York State, one should have studied his profession and passed for his degree at a chartered school or before one of the Regent's Boards, and it does not prohibit any system of practice. It codifies existing laws and makes clear doubtful sections, and the new matter contained in the measure is as follows: *First*, a provision of forms for registration and indorsement, to secure uniformity and prevent mistakes often arising from the careless methods at present in vogue, by reason of which the records are untrustworthy and the aim of the law defeated; *second*, the enumeration of the following offenses, all of a fraudulent nature, are made punishable as prescribed by the Penal Code, in analogous cases; perjury in false affidavit of registry, counterfeiting, buying, selling, and altering diplomas, or falsely personating another practitioner, and practising after conviction of felony; *third*, a civil action for a penalty given by the Revised Statutes, the reason being that when a person is practising under forged papers, purporting to be issued by a foreign university which he has never attended, as in a pending case, it is not possible for the prosecution under existing laws to issue a commission to take testimony.

Those who would be punishable, if the bill become a law, are persons making false affidavits in order to register; those who fraudulently buy, sell, counterfeit and use diplomas to deceive the public; those who falsely personate other practitioners, appropriating their names and credit; convicted felons who, as in

the case of one now in New York, may serve as many as three terms of imprisonment for criminal malpractice and return to renew their illegal procedures.

## Correspondence.

## MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

CHICAGO, June 10, 1887.

MR. EDITOR.—The meeting of the American Medical Association which closed at noon to-day may fairly be regarded as a successful one. Upwards of one thousand delegates and permanent members were registered during the four days of the meeting. The *personnel* of the body was about the same as usual; but regular attendants on the meetings of the Association in former years note the relative decrease in the proportion of eminent men of the profession, especially from the East, in attendance upon this meeting. The Association assembled in something of a mass meeting, and occasionally, as was witnessed on the second day when the report of the Committee on Changes in the organization was under consideration, it assumed the appearance, by its uproar and confusion, of an old-fashioned town-meeting.

The President's Address on "Cell Antagonism," was a scholarly production; it was a most interesting and graceful, even poetic, exposition of the pathology of the hour.

The work of the Sections, it is generally conceded, has been exceptionally good from a scientific standpoint, which is certainly hopeful for the future of the body. It is manifestly the aim of those who are guiding, or trying to guide, the destinies of the organization to have more work done in the Sections and less in the general meetings, to the end that it may have less the character of the mass-meeting and more that of a scientific body. In this they are succeeding. Hereafter the formal addresses by the Chairman of Sections are to be delivered before their respective Sections and not before the full convention, while three set addresses before the general body are to be read by prominent men specially and formally invited, on medicine, surgery, and "public medicine" respectively.

The report of the Committee on Changes in the Organization embodied propositions for changes in the Constitution which must lie over a year, on the sensible ruling of the President, although the Association had practically voted at the turbulent session that they were adopted then. They ought to be adopted next year, and probably will be. One provides for a permanent general committee to make all nominations and consider nearly all general matters of business coming before the Association—it takes vital matters out of the hands of the mass-meeting, where they are as likely as not to be spoiled, and places them in the hands of a smaller body of fairly-selected men who may justly be entitled to the designation of a deliberative body.

Another provides for a Board of Trustees of nine, to have charge of the properties (the *Journal* and the treasures) of the Association. The Trustees are to be nominated by the General Committee. If these amendments are adopted the general meetings of the Association will be nearly deprived of opportunities to do mischief by taking hasty, ill-considered and hot action on momentous subjects, to be regretted with chagrin afterward.

The Association voted this morning that hereafter there shall be a dinner provided as one of the entertainments at the meetings, and that members who attend shall pay a fixed fee which shall be different for those who do and those who do not have wine—when a member registers his name and pays, he is to designate to which of these classes he desires to belong, and the banquet hall is to be arranged for the accommodation of this arrangement. It is an amusing fact, that was not lost sight of, that the proposition was made by Dr. N. S. Davis, a life-long, unflinching enemy of the use of wine anywhere, at any time.

The social features of this meeting have not been neglected. On the first evening there were four receptions

given by citizens, only one of whom was a layman, and on the third evening there were three similar receptions. But the general reception at "Battery D.," on the second evening is conceded to have been the most useful as well as the most enjoyable. It was in a hall sufficiently large to enable every person attending the meeting to move about with perfect ease and meet every other person. It is doubtful if the dinner of next year will take the place of this grand reception as a means of bringing members together in a social and helpful way.

It was a pleasant surprise to most of the visiting members that the *Journal* and *Examiner* and the *Standard* issued daily editions containing commendable full reports of the proceedings. This is especially true of the latter, which not only had good reports of the sessions, but editorial comments upon them that were always able, if at times a little severe. Its editor, Dr. Kiernan, wields a trenchant pen which he can dip in gall when he tries to.

Notwithstanding the animadversions of the *Standard*, the writer heard almost no complaints of the work of the Committee of Arrangements, and other committees, but abundant thanks and praise for them all, and especially for the genial and courteous Chairman of the Committee of Arrangements, Dr. Charles Gilman Smith.

As to the *Journal* of the Association, not a word was heard in favor of any change in its place of publication or its editorial management. The editor's report was a favorable showing of progress for the publication, and the members were generally aware of an improvement in its character during the past year, so the satisfaction at the disposition of this item of business was general.

The Association wanted a thousand dollars for the International Congress, although Dr. Davis protested that half that sum ought to do, as all the balance in the treasury was needed to improve the *Journal*. This was the only reference to the Congress in the proceedings of the meeting.

## REPORTED MORTALITY FOR THE WEEK ENDING JUNE 4, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoeal Diseases.	Diph. & Croup.	Measles.
New York . . . . .	1,481,920	627	395	22.08	13.28	3.20	11.08	.48
Philadelphia . . . . .	995,801	353	127	12.04	11.48	1.40	3.06	2.60
Brooklyn . . . . .	745,108	231	85	18.92	12.90	4.30	6.17	.43
Chicago . . . . .	725,000	—	—	—	—	—	—	—
St. Louis . . . . .	420,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	132	44	12.16	12.16	5.32	2.28	1.52
Boston . . . . .	400,000	132	36	10.64	21.28	.76	.76	3.80
New Orleans . . . . .	245,750	131	56	22.04	11.40	16.72	.76	—
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
District of Columbia . . . . .	64	21	24.96	13.04	8.80	3.12	1.56	—
Pittsburgh . . . . .	210,000	65	23	24.64	13.86	7.70	3.08	1.54
Montreal . . . . .	186,257	—	—	—	—	—	—	—
Milwaukee . . . . .	170,000	42	19	11.00	14.28	2.38	—	2.38
Providence . . . . .	121,000	27	—	33.33	44.40	—	18.50	11.10
Richmond . . . . .	100,000	45	20	11.11	13.33	—	—	2.22
New Haven . . . . .	80,000	—	—	—	—	—	—	—
Nashville . . . . .	65,000	24	15	41.58	4.16	29.10	4.16	4.16
Charleston . . . . .	60,145	32	13	15.05	12.52	12.52	—	—
Portland . . . . .	40,000	14	3	—	24.56	—	—	—
Worcester . . . . .	68,383	20	4	—	30.00	—	—	—
Lowell . . . . .	64,051	—	—	—	—	—	—	—
Cambridge . . . . .	59,000	21	5	15.52	14.28	—	—	4.76
Fall River . . . . .	56,883	17	5	17.64	10.76	—	5.88	—
Lynn . . . . .	45,861	12	2	—	16.66	—	—	—
Lawrence . . . . .	38,825	8	3	—	12.50	—	—	—
Springfield . . . . .	37,577	—	—	—	—	—	—	—
New Bedford . . . . .	33,393	17	6	5.88	17.64	—	—	5.88
Somerville . . . . .	29,992	7	1	—	28.56	—	—	—
Salem . . . . .	28,064	9	3	22.22	22.22	—	22.22	—
Holyoke . . . . .	27,894	8	4	—	—	—	—	—
Chelsea . . . . .	25,700	7	0	—	28.56	—	—	—
Taunton . . . . .	23,674	9	1	22.22	22.22	—	—	—
Haverhill . . . . .	21,795	7	1	14.28	28.56	—	—	—
Gloucester . . . . .	21,713	4	0	—	—	—	—	—
Brocton . . . . .	20,783	6	1	16.65	—	—	—	—
Newton . . . . .	19,750	1	6	—	16.66	—	—	—
Malden . . . . .	16,407	—	—	—	—	—	—	—
Fitchburg . . . . .	15,375	4	0	—	50.00	—	—	—
Waltham . . . . .	14,009	3	0	—	—	—	—	—
Newburyport . . . . .	13,716	4	0	—	25.00	—	—	—
Northampton . . . . .	12,886	1	0	—	—	—	—	—

Deaths reported 2,005; under five years of age 765; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 361, consumption 301, lung diseases 205, diphtheria and croup 120, diarrhoeal diseases 89, measles 33, cerebro-spinal meningitis 14, typhoid fever 21, malarial fever 21, whooping-cough 15, scarlet fever 20, erysipelas eight, puerperal fever seven, small-pox (New York) four. From scarlet fever, New York 16, Philadelphia and Brooklyn four each, Baltimore two, Boston, District of Columbia and Pittsburgh one each. From typhoid fever, Philadelphia six, Pittsburgh four, Boston three, New York and Brooklyn, two each, District of Columbia, Nashville, Chelsea and Taunton one each. From malarial fever, New York eight, New Orleans six, Brooklyn three, District of Columbia two, Philadelphia and Charleston one each. From whooping-cough, New York six, Philadelphia three, Baltimore and District of Columbia two each, Boston and Pittsburgh one each. From cerebro-spinal meningitis, New York three, Philadelphia, Dis-

trict of Columbia, Fall River two each, Boston, Newport, Milwaukee, Taunton and Brockton one each. From erysipelas, Brooklyn five, New York two, Philadelphia one. From puerperal fever, Milwaukee two, New York, Boston, Pittsburgh, Providence, and Cambridge one each.

In the 26 greater towns of England and Wales, with an estimated population of 9,244,060, for the week ending May 21st, the death-rate was 20.3. Deaths reported 3,594; infants under one year of age 805; acute diseases of the respiratory organs (London, 289), measles 237, whooping-cough 158, scarlet fever 48, diarrhoea 47, diphtheria 22, fever 19.

The death-rates ranged from 12.3 in Wolverhampton to 31.1 in Manchester; Birmingham 18.3; Blackburn 21.4; Brighton 18.1; Hull 18.5; Leeds 16.8; Leicester 14.2; Liverpool 23.4; London 19.0; Newcastle-on-Tyne 27.9; Nottingham 17.5; Portsmouth 19.3; Sheffield 18.3; Sunderland 14.9.

In Edinburgh 15.7; Glasgow 24.6; Dublin 25.4.

The meteorological record for the week ending June 4, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, June 4, 1887.	Barom- eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall. Duration, Hrs. & Min. Amount in Inches.
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	
Sunday...29	29.98	48.0	50.0	46.0	91.0	83.0	93.0	93.0	N.E.	N.E.	N.	13	14	10	O.	R.	R.	10 03
Monday...30	30.15	53.0	58.0	47.0	87.0	81.0	91.0	87.0	N.E.	E.	E.	4	11	8	O.	O.	C.	2 1
Tuesday...31	30.36	53.0	57.0	51.0	82.0	85.0	87.0	85.0	S.E.	E.	E.	6	10	14	O.	O.	C.	2 1
Wednesday...1	30.22	52.0	56.0	48.0	96.0	100.0	100.0	99.0	E.	N.E.	N.	22	16	9	R.	R.	R.	11 06
Thursday...2	29.97	58.0	65.0	51.0	94.0	85.0	93.0	94.0	N.W.	E.	S.	5	8	5	O.	O.	C.	5 42
Friday...3	29.69	65.0	71.0	61.0	91.0	64.0	82.0	79.0	S.	N.W.	W.	9	10	12	O.	O.	F.	3 1
Saturday...4	30.02	53.0	63.0	50.0	89.0	90.0	86.0	86.0	N.E.	E.	N.E.	13	20	12	O.	O.	O.	—
Mean, the Week.	30.049	54.6	60.0	51.0				89.0										34 1.11

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 4, 1887, TO JUNE 10, 1887.

FRYER, B. E., major and surgeon. Granted two months' leave on account of sickness, permission to apply for an extension. S. O. 23, Division of the Pacific, May 28, 1887.

FRYER, B. E., major and surgeon. Granted sick leave for one month. S. O. 28, current series, Division of the Pacific, amended by S. O. 29, Division of the Pacific, June 2, 1887.

TREMAINE, W. S., major and surgeon. Sick leave still further extended two months, on account of sickness. S. O. 129, A. G. O., June 6, 1887.

BROWN, PAUL R., captain and assistant surgeon. Granted leave of absence for four months. S. O. 136, A. G. O., June 2, 1887.

APPEL, A. H., captain and assistant surgeon. Granted leave of absence on surgeon's certificate of disability, six months. S. O. 127, A. G. O., June 3, 1887.

WOOD, LEONARD, first lieutenant and assistant surgeon. Ordered for temporary duty at Fort Huachuca, A. T.; relieved from duty at Headquarters' Department, Arizona. S. O. 126, A. G. O., June 2, 1887.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JUNE 11, 1887.

VAN RUYEN, W. K., surgeon. Ordered June 8th, for examination preliminary to promotion as Medical Inspector.

ROBINSON, SOMERSET, medical inspector. Ordered June 20th, before a Retiring Board convened at Mare Island, Cal.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING JUNE 4, 1887.

GOLDSBOROUGH, C. B., surgeon. Detailed to represent the Service at the meeting of the American Medical Association, at Chicago, Ill., June 6, 1887. June 1, 1887.

BANKS, C. E., passed assistant surgeon. When relieved to rejoin station at Boston, Mass., May 23, 1887.

NORMAN, SEATON, assistant surgeon. When relieved to rejoin station at Cape Charles Quarantine, May 26, 1887.

#### BOOKS AND PAMPHLETS RECEIVED.

Ninth Annual Report of the Trustees of the Danvers Lunatic Hospital, for the Year ending September 30, 1886. Boston, 1887.

ANEMIA. By Frederick P. Henry, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic, etc. Philadelphia: P. Blakiston, Son & Co. 1887. (Reprint.)

Report of the Committee on Disinfectants, Presented at the Fourteenth Annual Meeting of the American Public Health Association, held at Toronto, Canada, October 5-8, 1886.

Phosphorus-Necrosis of the Jaws. By J. Ewing Mears, M.D., Professor of Anatomy and Clinical Surgery in the Pennsylvania College of Dental Surgery; Surgeon to St. Mary's Hospital, Philadelphia, etc. Philadelphia: Wm. J. Dornan. 1886. (Reprint.)

Lomb Prize Essay. Healthy Homes and Food for the Working Classes. By Victor C. Vaughan, M.D., Ph.D., Professor in University of Michigan. Concord, N. H.: Republican Press Association. 1886.

Transactions of the Association of American Physicians. First Session. Washington, D. C., June 17 and 18, 1886. Francis Delafield, M.D., President, James Tyson, M.D., Secretary, James T. Whittaker, M.D., Recorder. Philadelphia, 1886.

The Practitioner's Handbook of Treatment, or the Principles of Therapeutics. By J. Milner Fothergill, M.D., Physician to the London Hospital for Diseases of the Chest, etc. Third American from third English edition. Philadelphia: Lea Brothers & Co. 1887.

Public Health. The Lomb Prize Essays. Award made at the Thirteenth Annual Meeting of the American Public Health Association, Washington, D. C., December 10, 1885. With an Appendix. Second Edition. Concord, N. H.: Republican Press Association. 1886.

Sur un Nouveau Traitement de la Métrite Chronique et en particulier de l'endométrite par la Galvano-caustique. Chirurgie intra-utérine, par le Dr. G. Apostoli, professeur libre de Gynécologie et d'Electrothérapie à l'école pratique, etc., avec 9 figures dans le texte. Paris: Octave Doin, Editeur. 1887.

Dose and Price Labels of all the Drugs and Preparations of the United States Pharmacopoeia of 1880; together with many Unofficial Articles that are frequently called for as Medicines or used in the Arts for the use of Pharmacists, Physicians and Students. Second Edition. By C. L. Lochman. Philadelphia: Dunlap & Clarke. 1887.

Elementary Microscopical Technology. A Manual for Students of Microscopy. In Three Parts. Part I. The Technical History of a Slide from the Crude Materials to the Finished Mount. By Frank L. James, Ph.D., M.D., President St. Louis Society of Microscopists, etc. St. Louis: St. Louis Medical and Surgical Journal Company. 1887.

Practical Lessons in Nursing: Maternity, Infancy, Childhood, Hygiene of Pregnancy, Nursing and Weaning of Infants; the Care of Children in Health and Disease. Adapted especially to the Use of Mothers or those intrusted with the bringing up of Infants and Children, and Training-Schools for Nurses, etc. By John M. Keating, M.D. Philadelphia: J. B. Lippincott Co. 1887.

Earth as a Topical Application in Surgery. Being a full exposition of its uses in all the cases requiring topical applications admitted in the Men's and Women's Surgical Wards of the Pennsylvania Hospital during a period of six months in 1883. By Adinell Hewson, M.D. Second Edition. With four photo-relief illustrations. Philadelphia: The Medical Register Co. 1887.

Elements of Botany. Including Organography, Vegetable Histology, Vegetable Physiology and Vegetable Taxonomy, and a Glossary of Botanical Terms. Illustrated by nearly five hundred engravings from drawings by the author. By Edison S. Easton, A.M., F.R.M.S., Professor of Botany, Materia Medica and Microscopy in the Chicago College of Pharmacy. Chicago: G. P. Engelhard & Co. 1887.

Cyclopædia of Obstetrics and Gynecology. The Pathology of Labor and the Uses of Ergot; being Volume Three of a Practical Treatise on Obstetrics. By Dr. A. Charpentier, Adjunct Professor at the Faculty of Medicine, Paris. Translated under the supervision of, and with notes and additions by Egbert H. Grandin, M.D. In four volumes. 248 fine wood engravings. New York: Wm. Wood & Co. 1887.

## Lecture.

### METHODS OF RESEARCH IN MEDICAL LITERATURE.<sup>1</sup>

BY JOHN S. BILLINGS, M.D.,  
Surgeon, United States Army, Washington, D. C.

WHEN I promised to speak briefly at this meeting on medical bibliography, it was not because I had anything new to say on this subject, but because it seemed possible that a few remarks might start a discussion by the medical writers and teachers of this Association as to the methods which they have found useful, and as to what they think can and should be done here to facilitate this kind of research. From the days of Galen to the middle of the seventeenth century, bibliographical work was the most important business of the medical teacher. The great majority of the writers of the Middle Ages busied themselves, not so much with observation of facts, or with experimental inquiry, as with seeking to find out what Hippocrates, Galen, Avicenna, and other old masters had said about the matter. When the discovery was made that, in order to determine the precise anatomy of a part, the function of an organ, or the results produced by a disease, it was best to look for one's self, instead of consulting the fathers, and when this discovery had become popularized, bibliographical and historical research fell for a time into neglect. Within the last fifty years, however, there has been a revival in interest in the collection of medical libraries and in historical research, which last has become a necessity in many cases, if one would avoid doing useless work. Attempts to learn what has been done, or said, or thought, by our predecessors are due to widely different needs, and may be pursued by widely different methods.

As specimens of subjects with regard to which bibliographical work is most frequently called for, I give the following:

(1) To gather and compare the records of all reported cases of particular forms of abnormality, disease, or injury. The rarer and more anomalous the abnormality or the disease, the more important it is to find the widely-scattered records.

(2) To obtain statistical data with regard to the circumstances affecting the prevalence of a certain disease, the relative frequency of particular symptoms, and the comparative merits of different modes of treatment, or the results of special operations.

(3) To obtain information as to details of methods which have been tried in experimental physiology, pathology, or pharmacology, and as to the results; in order to avoid waste of time in devising apparatus, or in trying methods, which have been already found worthless, or to obtain suggestions as to new modes of experimentation.

(4) To trace the origin and development of medical organization in a particular city or country, or to gather materials for a biographical sketch of some celebrated physician, or for the history of a medical society.

(5) To obtain data for a comparison of the laws and customs of different countries affecting medical education, or the right to practice, or the care of the insane, or public hygiene, etc.

In literary research for biographical purposes, or to trace the development of theories or institutions, the

work must be done mainly by the writer himself; and, while at the commencement he may be greatly helped by systematic works of medical bibliography, he will soon find himself wandering off into all sorts of curious by-paths and out-of-the-way corners, into which he is led by obeying the golden rule for this kind of work, namely, to "verify your references." In the first book which he consults he will probably find two or three references, which will indicate to him as many different books or articles which he will wish to consult. When he gets these, each of them will probably give a few more references, to be hunted up in like manner.

Meantime, it will not be an unprecedented or very remarkable occurrence if, in the course of his reading, he stumbles over several interesting points not precisely connected with his original quest, but still having some relation to it, and which it seems a pity not to look up while he is about it, so he makes note of these, and of the references connected with them, and sends for a fresh lot of books. He finds, also, that some of his quotations are erroneous, that "some one has blundered or plagiarized," and proceeds with a sense of refreshment and satisfaction to hunt down the culprit. And so the work expands, for, as Teufelsdröckh remarks, "any road will lead you to the end of the world." To those who like this sort of literary work it has a great fascination, and there are few educated men who do not enjoy a short hunt of this kind, if they have time and facilities for it. From a strictly utilitarian and merely pecuniary point of view, the results of such bibliographical excursions are not usually very remunerative, but they afford capital mental exercise, and occasionally result in the production of some really interesting and valuable additions to medical literature.

Men engaged in this line of research do not usually, except just at first, care much about subject catalogues or indexes. They know what books they want to see, and the catalogue which interests them most frequently is a catalogue of authors in alphabetical order. The questions which they ask of the librarian are something like the following: Have you got such a book in the library? Who is the author of a book having such a title? John Smith published a book about such a date — what is its title? I want to see all the books that Peter Brown wrote or edited. How many editions were published of "Jones's Surgery," and what translations were made of it? When did the *Ohio Medical Repository* begin and end, and who were its editors? These are all simple questions, which almost any physician can answer for himself by the aid of good, ordinary author-catalogues.

If the question is as to a collection of laws regulating medical practice in Brussels, or the number of supplements to the "Catalogue of the New York Hospital," some physicians might be troubled a little to find the desired information in an author catalogue, not knowing the rule that a government or corporation is considered to be the author of its laws, reports, etc., and that, therefore, Belgium is the author of the first book, and the New York Hospital of the second.

But while a simple alphabetical catalogue of authors will serve many purposes in bibliographical research, and is, perhaps, the one most used by the librarian, there are many points on which it fails to give the desired information, and for which bibliographical lists or subject-catalogues are desirable; and just here

<sup>1</sup> Delivered before the Association of American Physicians, Washington, June 2, 1887.

a few definitions may be useful. By a bibliography I mean a list of titles of books, and of references to articles or paragraphs which relate to the subject in hand. By a critical bibliography I mean a list in which shall be indicated those books or articles which are of real value, as containing some addition to knowledge. In many, perhaps most, cases, such lists are best published in chronological form, thus indicating the successive dates on which new information was given; but, in making them, the use of separate slips or cards, arranged in alphabetical order, is the most convenient. The more complete such lists can be made, the more valuable they are, but often too much time is wasted in attempts to make them absolutely perfect. The great thing to be kept in view is to make them accurate as far as they go, and one of the best means of doing this is to indicate distinctly for each title quoted as to whether you yourself have or have not seen and examined the book. It should be constantly borne in mind that the proper object in giving bibliographical lists is not to impress the reader with the extent and variety of the author's research, but to give him the means of verifying the author's statements, and of pushing the research further. It is analogous to giving details of methods used in an experiment in physiology. Hence the references given should not be too condensed. They should be so clear, that from them it shall be easy to find the books, and for this reason I ask your attention to the desirability of using a uniform system of abbreviations of titles of journals and transactions in referring to them, and venture to suggest that the set of such abbreviations given at the beginning of Vol. VII of the Index Catalogue may be found useful for this purpose.

I have elsewhere called attention to the essential differences between medical bibliography, properly so called, and subject-catalogues of particular libraries. No matter how large and complete a medical library may be, its subject-catalogue can never form anything like a satisfactory medical bibliography; it only makes a good foundation for one.

On the other hand, when you wish to use bibliographical lists prepared by others, you have usually much difficulty in finding some of the books referred to; while the references which you do find in a subject-catalogue of a given library, can at all events be verified by visiting that library. The labor of preparing bibliographical lists, and of research, after one has been furnished with such a list, is in many cases very considerable, and such work can usually only be carried on to advantage in a large library. As this is preëminently an age of division of labor, it is natural to apply this principle also to bibliographical research. There are many cases in which what may be called mechanical bibliography and literary research may be used to excellent advantage, and the field for this kind of work will expand in the future. It is especially applicable in those cases, indicated in a preceding part of this paper, in which it is desired to compare the records of cases and operations, and to prepare statistics. It is often much better for the busy practitioner to have this work done for him than to attempt to do it himself, and especially is this the case if he does not easily read other languages besides his own. It is true that by employing others to do such work, he loses both pleasure and instruction, but the field of professional work and study is now so wide that it is impossible for any one man to cover it all, and he

must be content with coöperative effort. It is also true that such work is not only sometimes expensive, but that it is often difficult to tell beforehand what it will cost. There are several physicians in Washington who are willing to undertake work of this kind in the library of the Surgeon-General's Office, for physicians at a distance who cannot conveniently visit this city, and their charge for such work, hunting up references, making abstracts, translations, etc., is one dollar per hour. You can readily see that there can be no very definite relation between the time occupied and results produced: a half-page abstract may require two hours to prepare, or it may be done in ten minutes, and sometimes it may cost less to purchase a pamphlet than to obtain an abstract of it in this way. Nevertheless the demand for this kind of work is steadily increasing, and a supply will arise to meet the demand.

In order to obtain satisfactory results from bibliographical work done in this way it is necessary that the points to be looked up shall be stated as concisely, and as precisely, as possible; in other words that the person who requests the search shall know clearly what he wants. I have elsewhere called attention to this by quoting the warning which is printed on the title-page of the Washington City Directory, namely, "If you want to find a name in this directory, you must know how to spell it," which is the same as the old Latin proverb, "*qui nihil affert, nihil refert.*" When I receive a letter stating that the writer is about to prepare a paper for his county medical society; that he has selected for his subject, tumors of the liver, or locomotor ataxy, or the causes of insanity in modern times; and that he would be glad to have as complete a list of references as possible to all articles, reports of cases, or statistics connected with these subjects,—and that his paper must be prepared in two weeks,—I know of course that what he wants is one of the recent encyclopedias of medicine, and advise accordingly. The problem is not always so simple, however, and I must confess that I am sometimes very much puzzled as to what to reply to some of the queries which I receive. Nevertheless, we are all learning gradually how to use medical libraries, and in a few years more I predict that the wonder will be how we ever got on without them.

I have here a few of the books which are most used in this library for subject-references, a list of which is appended to this paper. I include in this list the catalogues of certain libraries for reasons already given. For other valuable works consult in the index-catalogue the headings, Bibliography Medical, Biography Medical, and Medicine, History of. With regard to the index-catalogue of this library, with which you are all more or less familiar, I may say that its most important defects are those of omission, that is, the failure to give under subject-headings all the references to books and articles actually in the library which really belong there, and it requires a little practice to enable one to get the best results from it.

There are many books and journal articles which different men would classify under different heads, and in most cases when one consults the index for a particular subject he finds more references than he cares to be bothered with, although the list is almost always incomplete owing to the fact that we have not yet obtained all the medical books which have been printed. We are, however, making fair progress in this direc-

tion; I think we now have over three-fourths of all medical books which have any special value or interest, and at least two-thirds of all the medical literature which has been printed.

In consulting the index on any given subject it will usually be found possible to select from the rather formidably large mass of titles those which are most likely to be of interest by giving a little attention to author's names, to the place and date of publication and to the number of pages and plates, if it is a journal article. The cross-references should be consulted, and under the headings to which these will guide you will often be found new cross-references which should also be looked up.

Since the year 1800, about one-half of the medical literature which has been published, consists of medical journals and transactions. Nine-tenths of the demands made on this library are based on references to this class of literature, and it is therefore of the greatest importance in medical bibliography. The number of medical journals and transactions now received by this library, excluding those devoted to pharmacy and dentistry, is over seven hundred, and it has been steadily increasing for the last five years.

If we take Plouquet's *literatura medica digesta* to be as complete an index of the medical literature in existence at the beginning of this century as the index catalogue is of the medical literature now in existence, it is evident that the number of references has more than quadrupled during the present century. Nine-tenths at least, of it, becomes worthless, and of no interest within ten years after the date of its publication, and much of it is so when it first appears. Of that which is really new and good a large part is pretty promptly made use of by systematizers and compilers, but there is also a considerable portion which we cannot use in our present state of knowledge but which become valuable building material hereafter. To get this roughly sorted out, classified and labelled, so that it can be found when wanted, is the object of indexing; to bring it into use is the object of bibliography.

One of the most useful pieces of work which could now be undertaken for the benefit of medical writers and investigators would be the preparation of a dictionary of critical bibliography of medical bibliography, in which should be indicated for each subject in alphabetical order a reference to where the best bibliography relating to that subject can be found. This could only be well done by a coöperation of a number of writers, each taking a special field.

I have not attempted in this brief paper to eulogize bibliography or to comment on the desirability that there should always be a few men interested in the study of the history and literature of medicine. I think that you will all agree with me that they may be sources of much pleasure, and that this alone is a fairly good reason for giving them some attention, and for exerting the influence of the profession to make it possible in at least one place in this country to carry out such studies with a full supply of material.

And while the librarian is in one respect only a sort of hod-carrier, who brings together the bricks made by one set of men in order that another set of men may build therewith—he is apt to take quite as much pride and satisfaction in the resulting structure, provided it be a good one, as if he had built it himself; and he has constantly unrolling before him a

panorama which, though at times a little monotonous, contains as much wisdom, humor, and pathos, as any other product of the human intellect with which I am acquainted.

#### LIST OF BOOKS MOST USEFUL FOR REFERENCE.

- Haller (Albertus). *Bibliotheca botanica, qua scripta ad rem herbariam facientia a rerum initis recensentur*. 2 v. 4°. Figuri, apud Orell, Gessner, Fussli, et soc., 1751.  
 Heffter (Joh. Carolus). *Museum disputationum physico-medicum tripartitum*. Ed. nova. 4 pla in 2 v. 4°. Zittavie Lussatorum, sumt. Schöpsianis, 1763-4.  
 Haller (Albertus). *Bibliotheca chirurgica, qua scripta ad artem chirurgicam facientia a rerum initis recensentur*. 2 v. 8°. Bernus et Basiliens, Haller et Schweighauser, 1774-5.  
 Haller (Albertus). *Bibliotheca anatomica qua scripta ad anatomiam et physiologiam facientia a rerum initis recensentur*. 2 v. 4°. Figuri, apud Orell, Gessner, Fussli et soc. 1774-7.  
 Haller (Albertus). *Bibliotheca medicinarum practica qua scripta ad partem medicinarum practica facientia a rerum initis ad a. 1775 recensentur*. 4 v. 4°. Basiliens, Joh. Schweighauser; Berna, apud Em. Haller, 1776-8. Tome IV. *Ex ejus schedis restituit auxit et edidit Joachim Diterich Brandis ab anno 1886 ad a. 1707*.  
 de Plouquet (Guillelmus Godofredus). *Literatura medica digesta sive repertorium medicinarum practica, chirurgis atque rei obstetricis*. 4 v. in 2. 4°. Tubingae, J. G. Cotta, 1808-9.  
 Watt (Robert). *Bibliotheca Britannica; or a general index to British and foreign literature*. 4 v. 4°. Edinburgh, A. Constable & Co., 1824.  
 Jourdan (A. J. L.). *Dictionnaire des sciences médicales. Biographie médicale*. 7 v. 8°. Paris, Panckoucke, 1830-25.  
 Boissier (d. E.). *Olivier et Baige-Dejorme. Dictionnaire historique de la médecine ancienne et moderne, ou précis de l'histoire générale, technologique et littéraire de la médecine, suivi de la bibliographie médicale du dix-neuvième siècle, et d'un répertoire bibliographique par ordre de matières*. 4 v. 7 & 8°. Paris, Bachel, jeune, 1836-9.  
 Roy (Cornelius Henricus). *Catalogus bibliothecae medicæ*. 5 v. 8°. Amstelodami, L. van Es, 1830.  
 Forbes (John). *A manual of select medical bibliography in which the books are arranged chronologically according to the subjects, etc.* 8°. London, Sherwood, Gilbert & Piper, 1835.  
 Callisen (A. C. P.). *Medicinisches Schriftsteller-Lexicon oder jetzt lebenden Aerzte, Wundärzte, Geburtshülfer, Apotheker und Naturforscher aller gebildeten Völker*. 33 v. 8°. Copenhagen u. Altona, 1830-45.  
 Choulant (Ludwig). *Handbuch der Bücherkunde für die ältere Medizin zur Kenntniss der griechischen, lateinischen und arabischen Schriften im ärztlichen Fache und zur bibliographischen Unterscheidung ihrer verschiedenen Ausgaben, Übersetzungen und Erläuterungen*. 2. Aufl. 8°. Leipzig, L. Voss, 1841.  
 Bibliotheca medico-historica sive catalogus librorum historicorum de re medica et scientia naturalium systematicis. 8°. Lipsie, sumpt. G. Engelmann, 1842.  
 Holtrop (Leonardus Stephanus Augustus). *Bibliotheca medicochirurgica et pharmaceutico-chemica, sive catalogus alphabeticus omnium librorum, dissertationum, etc., ad anatomiam, artem medicam chirurgicam, obstetriciam, pharmaceuticam, chemicam, botanicam, physico-medicam et veterinariam pertinentium, et in Belgio ab anno 1790, ad annum 1840 editorum*. Haga-Comitis, C. Fuhr, 1842.  
 Royal College of Surgeons in London. *A classed catalogue of the books contained in the library of the*. 8°. London, J. Scott, 1843.  
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## Original Article.

### OBSERVATIONS ON THE USE OF ANTIPYRINE AND THALLIN IN THE TREATMENT OF TYPHOID FEVER.<sup>1</sup>

BY FRANCIS MINOT, M.D.

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IN the autumn and winter of 1885-86, and in those of 1886-87, I ordered antipyrine and thallin in twenty-four cases of typhoid fever in the Massachusetts General Hospital, with the object of ascertaining, as far as possible, to what extent they could be relied upon as remedies of positive value in the treatment of that disease. An abstract of each case was made, and compared with the temperature-chart, the latter including, in a considerable number of cases, the hourly varia-

<sup>1</sup> Read before the Association of American Physicians, Washington, June 2, 1887.

tions after each dose, as well as the regular morning and evening range. The main points for investigation included:

- (1) The dose of each drug required to produce a depression of two or three degrees of temperature.
- (2) Conditions affecting the action of the drugs.
- (3) Effects on the condition of the patient.
- (4) Effects of the drugs in fatal cases.
- (5) Effects of antipyrine and thallin when given in continuous doses.
- (6) Comparative effects of antipyrine and thallin.

The twenty-four cases include all the typhoids that were submitted to the action of these drugs in the wards under my charge during these two terms of service.

The regular treatment of typhoid fever in these wards was expectant. A considerable proportion of the cases required no special interference. The patients were carefully fed, chiefly with milk, plain or peptonized, and occasionally with animal broths. All were regularly sponged several times daily with plain water, either cold or tepid. In cases where there was much prostration, brandy or whiskey was given, in doses ranging from one to two drachms, every three or four hours, to one ounce every hour. The patients were very lightly covered, often with only a sheet. Very few required opiates.

Antipyrine or thallin were given only when the temperature rose above 102.5° (Fahr.).

#### DOSE.

The doses employed varied according to the age of the patient, and the degree of pyrexia. From twenty to thirty grains of antipyrine were generally given to an adult, eight grains to a child of twelve years, and five grains to a child of three years, whenever the temperature reached three-and-one-half degrees (Fahr.) above the normal standard. If retained by the patient, this invariably had the effect of reducing the temperature two or three degrees, and sometimes more, in the course of one or two hours; the mercury then rose during the same length of time, till it reached its original level, or a degree below that. The same results followed the use of thallin in much smaller doses. In one case (an adult), two grains reduced the temperature from 105.7° to 101.2°. In general, four grains of thallin were given to an adult. When given in continuous doses, every three or four hours, for example, it was found, in some cases, that after one full dose, much smaller subsequent ones were sufficient to maintain the temperature at a given level. In the case of a patient twelve years old, after one dose of two grains of thallin, a single grain, given from twice to six times daily, was sufficient to keep the temperature at a moderate level.

#### CONDITIONS AFFECTING THE ACTION OF THE DRUGS.

It was observed that antipyrine and thallin acted most promptly, and with most permanent effect, when given at, or just before the end of the fastigium, thus giving rise to the suspicion that the improvement would have taken place had the medicine not been given. There is no doubt that this suspicion is just, so far as a permanent reaction is concerned. Inspection of the charts shows that, in general, antipyrine and thallin given during the fastigium reduced the temperature promptly, but only temporarily, except when they were given shortly before the lysis began (Susan Hamblet). In one case, however, that of a child three years old (J.

H. Frizzell), the fastigium was unusually short, and the chart shows an immediate and permanent reduction after antipyrine had been given. There was no doubt of the diagnosis in this case. In other cases, it seems probable, from inspection of the chart, that the temperature was controlled, or prevented from rising higher, although no permanent depression was effected, though, of course, this could not be demonstrated. In general, however, it was found that the more severe the symptoms, including high fever, the more difficult it was to maintain a moderate temperature by means of antipyrine or thallin. So far as I could discover, there were no other conditions which interfered with their action.

#### EFFECTS UPON THE PATIENTS.

The general effect of antipyrine and thallin upon the patients was almost always favorable, and no case was observed in which the exhibition of either drug was followed by any worse results than sweating and occasional vomiting. It was noted, in a large number of cases, that the patients slept tranquilly after taking them. No special prostration or exhaustion was recorded. Generally, it is reported that no change took place in the character or rate of the pulse. In many cases, the patient, from being restless or delirious, became tranquil and rational. In almost all the cases, it is reported that the patients were more comfortable after taking the medicine. These effects were more marked and more lasting when the drug was given during the defervescence than during the fastigium, but still they were observed at all periods of the disease. The favorable effects were decidedly more noticeable in children than in adults, and the drugs were remarkably well borne by children.

#### ANTIPYRINE AND THALLIN IN FATAL CASES.

I examined with care the records of the six fatal cases, in order to ascertain whether the result could be attributed, in any of them, to the refrigerant medicine. The first case was that of Lizzie Prime, domestic, twenty-seven years old, who entered the hospital December 14, 1886, with typhoid symptoms, signs of bronchitic inflammation, a pre-systolic cardiac murmur, and weak pulse. Three days after entrance she had a dose of antipyrine, which was repeated on the two following days, when the temperature became normal, and the medicine was discontinued. During all this time, the weak and irregular condition of the pulse continued. On the eighth day after entrance, signs of œdema of the glottis appeared, and at eight o'clock in the evening the trachea was opened, but no relief was afforded to the dyspnoea, and the patient died soon afterwards. Although no unfavorable effects following the administration of the antipyrine were recorded, I cannot but think that the condition of the pulse was such that the case was an unfavorable one for the exhibition of the drug. As no autopsy could be obtained, the cause of death could not be certainly ascertained: since the trachea was opened before death, œdema of the glottis could not have been the only cause. Stimulants were freely given throughout the case.

The next fatal case was similar to the last in respect to the condition of the pulse. Joseph Farrell, twenty-six years old, waiter, entered the hospital October 1, 1886, and died October 11th. He had been in bed seven days before entrance. He took several doses of antipyrine, of five to ten grains each, daily for nine

days, after which the temperature gradually fell to 99° on the day of his death. Throughout the case, the action of the heart was very feeble, and the lungs were œdematous. The density of the urine was 1012; there was a trace of albumen, with numerous hyaline and granular casts. *Post-mortem*, the muscular substance of the heart was found to be pale and translucent; the kidneys, on section, were pale, the cortex thickened, glomeruli distinct, and surrounding substance gray; spleen about four times the natural size, soft, and easily torn; great increase of pulp. The intestines showed the usual lesions. Stimulants were freely given throughout the case. No unfavorable symptoms which could be attributed to antipyrine were recorded, but the case was evidently not likely to be benefited by it.

The third fatal case, that of Louisa Smith, twenty-six years old, was one of relapse. Her mother and sister had typhoid recently, each had a relapse, and each had internal hemorrhage. Her husband, also, was convalescent from a "fever." The patient, who was much fatigued from nursing the others, and who also had a miscarriage at the fifth month, eight weeks previously, entered the hospital February 6, 1887, having been in bed two weeks with typhoid symptoms. The case was of moderate severity, and without special treatment the temperature gradually fell, and reached the normal standard on February 13th, the twenty-first day of the disease. February 17th, the temperature began to rise again, and after four days it reached 104°. On the sixth day of the relapse, one dose of thallin of four grains was given, which appeared to have a favorable effect, and was not repeated. February 28th, the eleventh day of the relapse, at 7 P. M., a sudden rigor occurred, with intense pain in the abdomen, vomiting, thready pulse, and all the symptoms of peritonitis from perforation, of which the patient died, March 3d, at 7 A. M. As only a single dose of thallin was given, which was followed by no unfavorable symptoms eight days before death from perforation, it is not probable that the drug had any influence in causing the fatal catastrophe.

Kate Murphy, twenty-one years old, entered hospital February 21st, and died, March 6, 1887. This was the fifth case of typhoid fever brought to this hospital from the same house, and the eighth person who had contracted the disease there, this season. Pale, chlorotic-looking; in bed three days before entrance. Temperature at entrance, 103.4°. It rose to 105.7° on the evening of February 25th, (eleventh day), and began to fall on the morning of the 27th, (thirteenth day). The decline continued till the evening of March, (nineteenth day), when it was at 98.5°. During all this time the symptoms grew worse and she died early the next morning. The cause of the failure of this patient appeared to have been diarrhoea, which set in on the fifteenth day, and was followed by delirium and exhaustion. She took six doses of thallin of two grains each, the last one seven days before her death.

Margaret Coffin, aged 54, entered the hospital October 16, 1886, and died November 11th. For six weeks before entrance she had been occupied in nursing a daughter with typhoid, and another daughter entered along with the mother, sick with the same disease. The symptoms began two weeks before entrance, and were threatening from the first. The temperature was very irregular, and at times as low as

97° without obvious cause—there was no hemorrhage. Diarrhoea was persistent. Treatment was chiefly by free administration of stimulants. November 6th, two grains of thallin were given at 5 A. M., the temperature being at 103°; it began to fall at once, and 8 o'clock was at the normal point. In an hour it rose rapidly to 102.2° and the dose was repeated. The next day the same dose of thallin was given at 10 A. M., with a similar result. No more was given, although the patient seemed more comfortable after the medicine. She gradually failed, and died at 2 A. M., November 11th, at about the thirty-sixth day of the disease.

The sixth fatal case was that of William Millis, twenty-four years old, who entered the hospital November 17th, and died November 25, 1886. In bed five days before entrance. He steadily grew worse until his death. The symptoms were stupor, delirium, and prostration. There was no evidence of serious lung or heart complication; but the condition of the urine was suspicious of previous renal disease. Thallin and antipyrine were thoroughly tried throughout the course of the disease, the former in doses of four grains, which readily reduced the temperature several degrees, though only for a short time. Antipyrine was given several times in doses of fifteen and twenty grains, smaller doses failing to act. Thirty grains were also given by enema twice, but without any effect at all. On the whole, the general effect of the antipyretics was thought to be favorable, it being noted repeatedly that after a dose had been given the patient was less restless, and more comfortable, notwithstanding a chill often occurred.

#### CONTINUED USE OF ANTIPYRETICS.

A few cases of typhoid were treated by the continued administration of antipyretic remedies. Either a single dose was given daily, or, as in most cases oftener than once daily. As an example of this method may be cited the case of John Swift, twenty-nine years old, who entered the hospital December 14, 1885, complaining for two weeks of lassitude and loss of appetite, and for one week of diarrhoea. The chart shows that the fastigium was just beginning at the time of his entrance. The temperature was 103°, and later the same evening 103.4°. He was much prostrated, and stupid, had abundant rose spots, enlarged spleen, gurgling in the right iliac region, etc. The next day he was delirious, trying to get out of bed, and twenty grains of antipyrine were given, after which he perspired freely, and became much quieter. The temperature was reduced from nearly 105° to 101°. After that he got two doses daily, of the same amount, except on one day when none was given; and it is remarkable that on that day only did the temperature rise above 103°. During the rest of the fastigium it varied between 101° and 102.5°. At the end of eight days the defervescence began, the temperature falling gradually and spontaneously, during five days, when it became normal, on December 31st, at about the twenty-fifth day of the disease. It is reported that he never had nausea or vomiting; the pulse remained unchanged after antipyrine; restlessness and delirium were much diminished.

In one case in which the temperature rose during the fastigium to 106° small doses (one and two grains) of thallin and antipyrine, sometimes one and sometimes the other, were given in a series of thirty-four doses, at intervals of from one to eight hours, with a

single dose of thirty grains of antipyrine, without unfavorable effect, and the patient recovered.

#### COMPARATIVE EFFECTS OF ANTIPYRINE AND THALLIN.

The study of the reports of the cases and of the temperature charts reveals but little difference in the effects of the two drugs; but soon after the introduction of thallin it was almost always employed in preference to the other, and the general impression derived from my experience in the two is that prolonged chill, excessive sweating, and vomiting were more frequently observed after the employment of antipyrine than of thallin.

#### CONCLUSIONS.

So far as trustworthy conclusions can be obtained from the comparison of so small a number of observations they would seem to be as follows:

(1) Antipyrine and thallin given internally have a remarkable power of reducing by several degrees the bodily temperature in typhoid fever within a period of from one to three hours, after which in most cases the temperature rises again in about the same length of time, sometimes to the original degree, but often not quite so high.

(2) The use of the drugs did not appear to give rise to any unfavorable effects upon the course of the disease, even in fatal cases.

(3) In general, the condition of the patient was more comfortable after the effect of the refrigerant medicine was produced; he was more tranquil, often slept, and frequently expressed himself as relieved.

(4) The refrigerant medication by antipyrine and thallin appears to have no specific or decided effect upon the course or issue of typhoid fever. In some cases the general condition was apparently relieved or improved throughout the course, but in most cases these drugs can only be looked upon as palliatives, often contributing to the patient's comfort, and perhaps indirectly promoting his safety.

(5) The failure of such efficient antipyretics as antipyrine and thallin to avert the fatal issue in many grave cases of typhoid fever shows that the danger does not consist in high temperature alone, but that the latter is rather an index of the abnormal condition which we call fever, though probably adding somewhat to the danger.

(6) By the internal use of antipyrine and thallin all the effects which are claimed for the treatment of typhoid fever by the cold bath are readily obtained without the trouble and inconvenience of the latter method, and without exposing the patient to the danger of exhaustion and shock consequent on the fatigue of removal from bed.

(7) These remedies may be given without danger to the youngest patient in suitable doses, and indeed their beneficial effects are more decided with them than with adults.

#### ADDENDUM.

Before concluding this paper, I wish to allude to the very favorable effect of refrigerant medicines in the treatment of the hectic of pulmonary consumption. Eight grains of antipyrine given daily at three or four o'clock in the afternoon has in my experience both in hospital and private practice been effectual in preventing the rise of temperature, the sweating and the flushing which are a source of so much discomfort to phthisical patients, especially during the period of soften-

ing, although the remedy appears to have no effect on the progress of the disease.

The chart which I will pass around, is that of F. W. Tolsom, eighteen years old, who entered the hospital January 23, 1886, with cough and muco-purulent expectoration, night sweats, loss of weight and strength, etc. The signs were dulness, broncho-vesicular respiratory murmur, bronchophony, moist crepitant rale, etc., in the right apex, extending in front to the third rib, and half way down the scapula behind. One dose of antipyrine was given the next day, but none on the two following days, during which the evening temperature ranged between 103° and 104°. Eight grains were then given daily at 4 p. m., for the remainder of his stay (13 days), during which time the temperature was greatly reduced and the hectic suppressed. The patient also gained two pounds in weight.

### Clinical Memorandum.

#### ATTEMPTED SUICIDE FROM THE INGESTION OF FIFTY-ONE GRAINS OF MORPHINE, THE GREATER PART OF WHICH REMAINED IN THE STOMACH THIRTEEN HOURS: RECOVERY.

REPORTED BY GEORGE M. MORSE, M.D., OF CLINTON, MASS.

IN the JOURNAL of May 12th is reported "A Case of Attempted Suicide by the Ingestion of Thirty-six Grains of Morphine, which remained in the stomach five hours." I have to report a still larger amount taken, and remaining a still longer time in the stomach.

May 25th, M. C., aged thirty-two years, was found by his boarding-mistress, at ten minutes past twelve, in his room, on the bed, unconscious. Dr. French was called, who sent for me, with the request that I would come immediately, and bring a stomach-pump. I arrived at the house at about 1 o'clock, p. m. We found the patient, a strong, well-built man, dressed with the utmost care and nicely, lying on the bed, which had not been slept in, unconscious, sweating profusely; pupils contracted to a pin's point; respiration very irregular, abdominal; lips purple, face cyanotic. On the table was found a bottle with Power's and Weightman's red label, containing, by weight, nine grains of morphine; in a goblet by side of bed, about two drachms of water, which tasted like a solution of morphine; also a sealed letter, directed to patient's wife, marked "deliver immediately—death." The bottle was apparently a new bottle, fresh from the apothecary; the tin-foil had not been entirely removed from the cork. In a vessel under the bed was found, as we judged, about two ounces of greenish fluid, containing food, the green color given, apparently, by garden-rhubarb. A lamp was burning in the room, indicating that the patient had been on the bed many hours. The lamp would ordinarily burn for twelve or fourteen hours; the oil was nearly exhausted.

The diagnosis was easily made out, namely, attempted suicide by the use of morphine, taken sometime during the previous night. Attempts, which were ineffectual, had been made by Dr. French to make him swallow coffee. He had also administered atropine hypodermically. While getting my stomach-pump ready, one-thirtieth-of-a-grain of atropine was injected. At 1.15 p. m., I removed ten ounces of

fluid, like, in appearance, the liquid found in the vessel, pumped back sixteen ounces of warm water, which I removed, and injected another pint of water, and removed that also. Having thoroughly rinsed out the stomach, I pumped in a pint of very strong black coffee. Flagellation of the face by a wet towel, and of the nates by a small cane, was kept up until a galvanic battery was obtained, one pole of which was applied to the epigastrium, and the other to the carotid triangle.

2.30 p. m. Pupils dilated a little; respiration improved; patient not so cyanotic. Flagellation caused corrugation of the superciliary and orbicularis muscles.

3.30 p. m. Patient very purple, entirely unconscious; pulse 140, respirations three per minute. We gave ten grains of caffeine. Galvanism was continued; the negative pole applied to lips and carotid triangle alternately. 5 p. m. Respiration improved; Cheyne-Stokes in character.

5.30 p. m. Caffeine, ten grains; galvanism continued.

6 p. m. Pulse 148, respirations twenty per minute.

9 p. m. Patient could be made to open eyes by shouting, shaking, and by applying the cane with considerable force to the nates. Caffeine every three hours; also galvanism intermittently.

2 a. m. Nurse said he waked up and became conscious. 9 a. m. Patient seemed quite conscious, but said his head felt light; vomited, and in the afternoon was quite delirious, saw snakes, etc.

He was well the next day, and gave this account of himself: At 11 p. m., May 25th, he retired to his room, took a bath, dressed himself in his best clothing—clean shirt, collar, white neck-tie, and white stockings—wrote the letter to his wife; put one-half the contents of an eighth-ounce bottle of morphine (which he had bought some days before) into a goblet of water, and drank it; filled the goblet with water and put more morphine in it, and drank of it occasionally until he became unconscious; the last drink he took made him sick, and he vomited once—what we found in the vessel.

There were nine grains found in the bottle, showing that he had taken fifty-one grains, and he said he wasted only what he vomited, and which we found in the vessel. According to his account, he drank about twelve ounces of water, in which were dissolved fifty-one grains of morphine. He vomited two ounces, so that there must have remained in his stomach for more than twelve hours more than forty grains of morphine. No estimate is here made of the contents of his stomach before taking morphine. There must have been considerable, as we found what appeared like garden-rhubarb in the matter pumped out.

It is to be regretted that no attempt was made to ascertain the amount of morphine pumped out, but, in the hurry and confusion, the whole was thrown away. The points of interest in this case are the large amount of morphine taken, the length of time it remained in the stomach before any attempt was made to remove or antagonize its effects, and lastly, the success of the treatment, namely, the stomach-pump, atropine, caffeine, galvanism, and flagellation.

This case, together with the case reported from Denver by Dr. Fisk, shows that however desperate the case may seem to be, however large the amount taken, or the length of time before treatment is commenced, persistent endeavors to relieve the patient

should continue so long as respiration can be kept up by the use of galvanism and flagellation. In short, every effort should be made to keep the patient alive until the poison has spent its force, or has been antagonized by the atropine and caffeine.

### Reports of Societies.

#### THE ONE HUNDRED AND SIXTH ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 7TH AND 8TH, 1887.<sup>1</sup>

##### THE ANNUAL DINNER.

Soon after one o'clock the traditional procession took up its line of march down Boylston to Clarendon Street, to Winslow's rink, where Caterer Weber had arranged over a score of tables covered with inviting delicacies. The skating-floor was well filled up with them, while on a platform in the front of the rink were more tables for the invited guests and the officers of the society. In the side-gallery were twenty-five musicians from the Cadet Band, under the leadership of J. Thomas Baldwin. Upwards of nine hundred Fellows sat down to dinner. The assembly was called to order by the Anniversary Chairman, Dr. William L. Richardson, of Boston, and grace was said by the Rev. Brooke Herford, of Boston.

The platform was occupied by the following gentlemen of prominence, besides the officers of the Society and the delegates from other societies: Gov. Ames, U. S. Dist.-Atty. George M. Stearns, the Rev. Brooke Herford, Col. T. W. Higginson, Asst.-Atty. Gen. H. N. Shepard, Surg.-Gen. A. F. Holt, Mr. Roger Wolcott, Drs. B. E. Cotting, H. W. Williams, G. H. Lyman, H. I. Bowditch, Alfred Hosmer, William Cogswell, G. C. Shattuck, G. B. Shattuck, Francis Minot, H. P. Bowditch, C. B. Porter, J. C. Warren, H. P. Walcott, John Homan, G. H. M. Rowe, and others.

The caterer's wares having been disposed of, Dr. Richardson began the later exercises of the day. After acknowledging his indebtedness to the efficient committee of arrangements, he proceeded with the introduction of the various speakers, as follows:

We are favored by the presence of several distinguished gentlemen whom I shall call upon to address you. Much, doubtless, to your disappointment, but at their earnest request, I have consented to give up the custom, sometimes followed at these annual dinners, of having long speeches. These to which I invite your attention will be brief. The first to speak will be the gentleman who, as our President, represents the Society — Dr. Thomas H. Gage, of Worcester.

To which Dr. Gage responded as follows:

MR. CHAIRMAN, I thank you, in behalf of your associates of the Massachusetts Medical Society, for these graceful and complimentary words. And, in the same behalf, I thank you and the gentlemen who have been associated with you in the Committee of Arrangements, for your untiring and every way successful efforts to make this anniversary meeting one of more than usual pleasure and profit. You have afforded us an intellectual entertainment of a high order; you have given us, under the auspices of a generous hospitality, an hour of pleasant social intercourse; and

you have in reserve a "feast of wit and reason" to which the vast audience here assembled is looking forward with eager expectation. Distinguished guests honor us by their presence, and eloquent speakers await your pleasure to address us. Nothing but the purely conventional requirement that I should be first to receive your summons and respond for those I have the honor to represent, stands now between your audience and its anticipated enjoyments. And I will, of course, be brief.

The year that has passed, since we were last assembled here, has been within our organization, one of harmony and peace. The Massachusetts Medical Society has been disturbed by no unwelcome topics of discussion, and by no discordant counsels. There has been nothing to distract attention from the great pursuits for which it was established by the fathers, and for which it still affords the highest encouragements and the amplest opportunities. Everything has favored a season of normal and healthful activity, and such a season we have enjoyed. It has been a year of general prosperity, and, in my judgment, of substantial and commendable progress. We have not startled the scientific world, it is true, by great achievement or remarkable announcement; but we have contributed to make such results possible in the future. We have gathered knowledge and experience and made them available for reference, instruction, illustration, and mutual improvement. We have invited and encouraged independent and original experiment and research. And we have examined, from time to time, under the light of full and free discussion, the facts and the theories we have thus brought together.

All along the line from Berkshire to Barnstable, this scientific activity has been kept up throughout the year. Communications of high character, showing care in the preparation, close observation of the phenomena of disease, excellent knowledge of the principles of medicine, and studious application, both at the bedside and in the library, have been the rule in all the District Societies. And the general character of the discussions they have elicited has been equally high and instructive. Here and there, to be sure, the stream of intellectual thought and endeavor has encountered in its course the old mossgrown obstructions of apathy, indifference, and inharmonious relations, and for a little space flowed sluggishly; but nowhere has it ceased. The great and useful work of encouraging and promoting, by associated effort, a knowledge of medicine and surgery, and a love of science, has gone quietly and prosperously on. And, as it has fallen under my notice, it has been, in its general scope and character, exceedingly practical. To a very large extent it has consisted of the presentation and discussion of cases, including not only those of an unusual nature and exceptional interest, but those also of commoner form, illustrating disease, casualty, and emergency, as they pass under every busy physician's daily observation and care. And the result has been the contribution of not a few new and useful suggestions in both theory and practice. And so in a very practical way great principles have been the subject of communication and discussion, and especially those that underlie the sciences of public health and the prevention of disease. Nearly all the societies have had under consideration the practical application of these to the public and domestic wants of the people.

In speaking of this practical feature of the year,

<sup>1</sup> Concluded from page 579.

which has been so conspicuous everywhere, I am inclined to illustrate it by citing a prominent instance, and I trust an allusion to a particular Society by name will not be anywhere regarded as making an invidious distinction. Circumstances of an unusual and very extraordinary nature have given the Norfolk District a remarkable opportunity for the study of an important class of injuries, and I wish to allude to the excellent use made by that Society of the scientific material thus thrown in its way. I refer to the experience afforded its members by the Bussey Bridge disaster, and to the systematic effort made by them to utilize their observations for the advancement of science. Should the methods, thus far developed, be by them still further pursued, and the cases of the injured be kept under observation, and from time to time reported and published, a contribution of valuable nature upon the vexed medico-legal questions that grow out of railway injuries may be expected to result. This circle of events, namely, the opportunity, the use made of it already, and the further use of it that seems to be promised in the future, will have afforded, when it is complete, a typical illustration of the capabilities of our District Societies for the most profitable kind of practical work.

But the organic act under which the Massachusetts Medical Society exists, and which provides for district organizations, mentions particularly the communication of experiments, as well as of cases, as a means of encouraging and promoting the acquisition of medical knowledge. By which is meant, I suppose, the communication of such experiments and researches in the field of science, as are undertaken with the purpose of discovering new truth, or of verifying the alleged discoveries of such truth by others. Now in the nature of things such communications as these are much less common than those of an immediately practical character. Not many of those

"Whose modest want of everyday  
The toil of everyday supplies,"

can afford the time or the means required for such exercises. And besides, few have the taste for such employments, and fewer still the knowledge of details, the special skill, and the mental discipline, necessary to make an attempt of this sort one of really scientific value. Yet even such communications as these, though far less abundantly than the others, the year has supplied. Contributions giving the results of independent and original research in the fields of bacteriology, histological pathology, and the specific poisons have been quite numerous, and exceedingly creditable, not only to the authors and observers, but to the societies they have represented.

Thus, Mr. Chairman and gentlemen, the year that has passed, since we were last assembled here, has been one of healthful activity, faithful endeavor, and useful results; and thus, substantially, it will pass into history, and become a companion of the many, all more or less illustrious, that have preceded it. Its opportunities are gone, and it is itself past recall. Let us waste upon it neither criticisms nor regrets. Another, equally inviting, and with the sublimest of possibilities, lies before us. Let us make the best of that.

DR. RICHARDSON then said:

The State of Massachusetts next claims our attention. We are honored on this occasion by the pres-

ence of the chief magistrate of the Commonwealth, a man of few words but who does not hesitate to act in accordance with what he thinks is right. I have the pleasure to introduce His Excellency, Governor Ames.

The GOVERNOR, who was enthusiastically received, spoke as follows:—

GENTLEMEN OF THE MASSACHUSETTS MEDICAL SOCIETY:—When I first became acquainted with the country doctor he combined in his person the professions of physician, dentist, and apothecary. In these later days, which are so distinguished by the division of labor, the doctor has become simply the physician, and he writes for you a prescription, and bids you go to the apothecary. Following the modern example, I have written my prescription for this occasion, which I will proceed to read to you:

Gentlemen of the Massachusetts Medical Society; It gives me great pleasure that in the rush of business in which I am now involved, I am able to come here, to express to you the kind feeling which the Commonwealth has for those who practice the healing art within her borders. It must be said, that as much as some of us, individually, dislike the doses which you prescribe, we cannot do without you. You are all-powerful with us when we are most in need of the sympathy of our fellow-men, and you use that power with such skill and discretion that the physician is often the best, as he is almost always the wisest, friend of the family. Time was, when the dominion of the sick-room was divided between the doctor, the clergyman, and the lawyer; but now no one disputes with you for preëminence in that place, unless it be the nurse, that modern adjunct to your profession, for which we cannot be too grateful to you. In whatever way one turns, one sees something which ought to evoke his gratitude to you. In public improvements, which tend to raise the standard of the general health, none are more active; in securing better lighting, improved ventilation, and thorough drainage for our homes and places of business, none take a greater interest. Indeed, you have become, and to our advantage, preventers of, rather than curers of, diseases and that life is lengthened, with all its opportunities and all its blessings, is largely due to your efforts. Again I greet you in the name of the Commonwealth, and repeat my assurance that in you she sees a body of men whom she delights to honor—for she has no more wise, useful, or patriotic citizens.

The chairman then resumed: Having thus recognized the State, we turn to pay our attention to the United States, and we are very fortunate in having with us to-day a gentleman who as the United States District-Attorney, fittingly represents the national government—the Hon. George M. Stearns.

MR. STEARNS spoke substantially as follows:

MR. PRESIDENT AND BROTHER DOCTORS: I don't think we take naturally to doctors. My first recollection of the doctor is of a large, imposing, solemn gentleman dressed in black, who drove a little black mare in a little black gig, and carried a pair of black saddlebags filled with medicaments of a dirty color, who smelt of camphor, and who, when he was called upon to administer to my ailments, when bribery and persuasion and threats had failed, seized me in his strong arms and held my nose while my mother turned his vile decoctions down my juvenile throat. But as we proceed in life I think the doctor keeps mounting higher and higher in our regard and esteem, for no

boy arrives at the age of ten years without resolving to be either a stage driver or a circus performer or a doctor. Not that they are kindred professions, but they are allied to the one object dearest above all others to the juvenile mind, and that is a horse. No other five letters convey to a boy so much attraction and pleasure as h-o-r-s-e.

But he still further rises in our esteem when upon other occasions we see him in the sick-room, when we see him with his fingers upon the wrists of our wives and our children; and as we watch him and a smile comes over his face he becomes a harbinger of hope and an angel of gladness. I know of no one who brings more sunshine into places of sorrow and disaster than the doctor, and he always will live in the kind recollections and memory and thought of all who have witnessed his patient, skilful, and faithful work. Nowhere have I seen doctors when I liked them so well as on the present occasion, when I see them laying aside their abstractions, their dogmas, their views, and joining like any common man in laying the foundations of dyspepsia and liver complaints.

The exaltation of the profession is sometimes unduly exemplified in the old story of the young physician who lost mother and child, but succeeded in saving the old man. And we sometimes bring to mind the description of Voltaire, who depicts the physician as coming to the sick-room to enter into a contest with nature and disease. He lays blindly about him with a club. If he hits disease, the man lives; if he hits nature, the man dies.

But what I am expected to talk about is the government of the United States, and I wish to say that the government is "doing as well as could be expected." You doctors say that air and exercise are what we need. And so the United States of America, in its grand march towards its limitless destiny, draws into its continental lungs the winds from the ocean and the breezes from hill and forest; it exercises its sails on countless seas; it digs in the bowels of the earth; it chops down primeval trees; it scatters life and liberty over its boundless domain. Yet, like the doctors, the nation is always being ruined. Every decade I hear them say that the doctor is ruined, that his occupation is gone. What with pellets and hydropathy and clairvoyance he has always felt in danger, and now Christian Science threatens to wrap him in celestial oblivion. But the doctor still lives; and so the government of the United States, always being ruined by the party in power, still lives because of the indestructible character of its natural principle, just as patients are sometimes unkindly said to live on account of a firm constitution which defies the doctor.

One thing we laymen do that is worthy of imitation. When we find a good doctor we stick to him. There is a fresh example of it in the telegram from one of the justices of the Supreme Court of this State, which recently summoned his physician from Newton across the water to London. And so it behooves us to stick to good government. The day of party names has, thank God, gone by. What you and I and we all want, is good government, and when we have that the citizen's duty is the uppermost one in the thought of honest men, and to-day, responding for the government of the United States, I know you will not think I am offending your good sense or violating rules of propriety when I say that at no time has the nation been linked to integrity, to honesty, to rugged intelligence

and to a conscientious devotion to duty more than under the present President of the United States.

Mr. Stearns's speech was greeted with hearty applause, and upon its subsidence, Dr. Richardson introduced the next speaker as follows:

For many years it has been our custom to have with us at these anniversary dinners, representatives of the clerical and legal professions. As representative of the former we have with us to-day a gentleman who is somewhat hard to get on these occasions, but, going on the principle, "if at first you don't succeed, try, try again," we finally secured the Rev. Brooke Herford.

MR. HERFORD said that it gave him pleasure to come to greet a profession kindred with his own. They share the same fortune or misfortune in that the public likes to joke at both. The village doctor and clergyman are the butt of three-fourths of the fun unless the place is big enough to have a lawyer too. I will admit the wits may be a little more severe on the medical profession, like the unconscious irony of the Lancashire woman recounting the facts of her son's illness; he "had no doctor—he just deed himself." The worst that is said of the clergyman is that he sends people to sleep. I observe that this joke falls pointless on this assembly, perhaps because few of you ever subject (I mean are ever able to subject) yourselves to the soporific possibilities of Sunday morning in church. We are alike, therefore, in being the object of jokes, but we are allied also by nobler characteristics. No two professions do so much good, unremunerated work as the medical profession and the one I represent. Nobody but a clergyman knows how much good a doctor does and how little he is paid for it. When I was engaged in my work in a Yorkshire village, I learned to appreciate the noble charity and kindness of the medical profession, and when later my lot came to be cast in great cities I found that amongst the noblest workers for the public good were the members of the same calling. And then no other occupation than ours gives us so much of the love, respect, and honor of our fellow-men. I have always been touched by the tenderness of my own reception in my parish, and the same warmth of feeling awaits the doctor. I can remember the doctor from my earliest years, though I don't pretend to remember as much as my friend Mr. Stearns. I don't remember, like him, when I was born, and I will wager he doesn't remember when he was born again. There may not be quite the close attachment of physician that he remembered in his youth, in these days of many family physicians, when the man has one, the wife another, and the daughter fancies a third. But the physician has reason to rejoice in his calling, hard though it is. And such a gathering as this cheers one. One feels that he belongs to a bigger kind of thing when he is lifted up by the power of numbers.

The next speaker was introduced as follows: A tinge of sadness must of necessity be connected with all annual reunions, for, as the years go by, and we reassemble around the tables at these anniversaries, one and another familiar face is missed. I am not old enough to remember personally many of the veteran leaders whose names we speak of with pride—the Jacksons, Warrens, Ware, and a host of others, but one of the most pleasant remembrances of my student days were the weekly visits at the Massachusetts General Hospital, where I was house-physician, of Dr.

Edward Reynolds, whose genial, courtly, kindly manner to us house-students I can never forget. I take pleasure in introducing one possessing the same characteristics, Dr. John P. Reynolds.

DR. REYNOLDS, in reply, paid a high and deserved compliment to the president of the Society, Dr. Gage, and to the chairman of the occasion, Dr. Richardson; and in closing suggested the hope that the Massachusetts Medical Society might be like the type of one page of Wilberforce's book, growing bigger and bigger, but that the speeches might be like the type of the succeeding page, growing smaller and smaller.

DR. RICHARDSON called next upon Col. Higginson, as follows: For several years the meetings of the council and our annual meetings have been the scene of lively debate on the question of the admission of women to the Society. Both sides fought well, and I take great pleasure, Your Excellency, in saying) neither side employed a lobby. The question was debated on its merits, and, after many defeats, the side claiming to represent woman's rights triumphed, and the doors of the Society were thrown open. From that moment those of us who were beaten fell gracefully into line, and every applicant for admission to the Society has received equal treatment. At our dinner all are equally welcome, and the cigars (which some of us were afraid of offering) are passed to male and female alike, without discrimination. We have with us to-day a gentleman always ready to fight for a good cause. For many years he has battled for so-called woman's rights, whenever he saw a chance, and always with the same fidelity and zeal with which he fought on the battle-fields of the late civil war at the head of his colored troops (the first colored troops, if I remember rightly, ever mastered into the United States service), Col. T. W. Higginson.

COL. HIGGINSON began by referring to the recent dinner of the Ancient and Honorable Artillery Company, where he was called upon to respond to a toast in the capacity of a judge. On his protesting that he was unfit to respond, not being a judge, he was told that if he was not a judge he ought to be. And I suppose you present me to-day, Mr. Chairman, he continued, on the ground that if I am not a woman I ought to be. In the name of our sex I thank you. I see there are six of us besides myself. In the lines of Wordsworth, "we are seven." I was afraid there would be no one but myself,—a constituent without a constituency. So I was glad to see a few cheering bonnets in the procession, though at the rear. Not that the women are reluctant to come, but there is an instinctive sense of propriety about it. Hygeia was a woman and was always young, and therefore the women march near the youngest men of the faculty, as they never grow old. It used to be said that every man of forty was a fool or a physician. The presence here of so many men of mature age accounts for the proverb, and also for the absence of fools. Women were left to be both at once, but, having once let us come in here, you may expect us every year. We will stand by you, we "will never desert Micawber." We will readily come to your assistance, and, when you are at your wit's end, we will endeavor to conceal that we know even less than you do. We have not sought admission to your ranks because we desire an unwarranted enlargement of duty, but that we might share with you in service to mankind. Hippocrates says that the second best remedy is better than the best if

the patient likes it best. So with the second best physician. Whether we turn out second best or not, we must leave to the future to show; and as for the liking of the patient, we are willing to take our chances. What our families are to do in our professional absence, this afternoon may suggest. We shall leave them as you have left your patients to-day, to the mercy of Providence or of some handy young man. Massachusetts has tried to get along all day with nine hundred of her best physicians eating dinner in a skating-rink. When you get home just note how well your patients have fared. But we are glad to accept your invitation to come in with you, which, in justice and comprehensiveness, rivals the notice of a political caucus, to which "all women, without distinction of sex, were welcomed."

The next speaker was presented in these words: As a representative of the legal profession, we turn to one with whose name you are familiar, the Assistant Attorney-General of the State, Col. Harvey N. Shepard.

COL. SHEPARD spoke in general terms commendatory of the law, and felt sure that in the vast majority of cases that came into our courts substantial justice was done. And here our two callings come close together. The courts need advice, expert advice, but there is certainly considerable occasion for reproach in the present aspect of expert testimony. There must, of course, be disagreement in matters of opinion, but there is no reason for such diametrically conflicting statements as those of experts on the witness stand. I do not know the remedy, whether it lies in the appointment of experts by the court or not, but I am sure that something could be done to give to profound learning and sincere conviction due weight.

The next speaker was Mr. Roger Wolcott, whom the chairman presented as follows: The Fellows of this Society have always been ready to help any efforts made to advance medical education or to relieve the sick and wounded. Nothing has done more to further these two objects in Massachusetts than the great hospitals and dispensaries of our large cities. We have with us to-day one of the trustees of the Massachusetts General Hospital, a gentleman who has also made himself well known to us by the admirable service which he has rendered the profession as well as the State as a legislator and member of the celebrated Tewksbury investigating committee, Roger Wolcott.

MR. WOLCOTT said that as a trustee of the Hospital, he experienced a satisfaction with its noble work, a sense of responsibility in the management of so large an institution, and a pleasing excitement in steering so intelligent and wise a staff. There had been an evident advance since two hundred and fifty years ago, when barbers were forbidden to do any surgery but pull teeth, and surgeons were forbidden to do shaving.

The demands of modern surgery are felt by every trustee of the Hospital, and a new ward is to be built for abdominal surgery. The student of these days has passed far beyond mere empirical knowledge. He must pursue scientific investigation, and to this end scholarships ought to be more plenty. There is in Harvard College an average of but one scholarship to one hundred students. In the Medical School there are two hundred and seventy-one students, and but six scholarships. What better could a man do than found more scholarships here? "And yet," as the minister prayed, "we would not dietate, but venture to advise, O Lord." It is not credible that we have

so few scholarships in the Medical School. Times have changed, since, in 1836, Mason Warren wrote home from Paris of the enmities and jealousies among the professional men there. That is past, and the profession to-day is full of promise. Who shall doubt, that, as the camera traces the outlines and the constitutions of hitherto undiscovered stars, the trained and educated intellect may reveal facts and conjectures and truths that no eye can now discern? The Massachusetts General Hospital commands the services of the most eminent professors of your art, services, now as ever, not devoid of danger. One after another has given up his life in the service. What was said of one not long deceased,—“a noble life given to preserve an ignoble one,”—may be said of many another physician, all of whom willingly carry their lives in their hands for the sake of suffering humanity.

The Chairman then called upon the last speaker of the day in these words: If we are to credit one-half of the marvellous stories which the gypsies tell, and the ignorant and sceptical believe, it would seem as though the work of our profession were at an end. A new class of practitioners have arisen, and are rapidly permeating those who run after every absurd theory, such as that, there being no body, there can be no disease. We know what humbug all this so-called mind-cure is, but, as intelligent physicians, we recognize that the mind does influence the body, though we do not pretend as yet to absolutely define the relationship. It is with pleasure that I introduce to you a gentleman who has recently come from England to assume the secretaryship of the American Society for Psychical Research—a society which is doing good service in trying to study out this problem of the mind—Mr. Richard Hodgson.

MR. HODGSON, after a humorous reference to the possible uncertainty of knowing who is who, if the capacity of mental influence upon others were to become universal, said that he believed that the fact of the influence of mental states upon organic functions was daily becoming of more importance. To investigate such matters, the Society for Psychical Research had been started. Facts once scouted were now established and looked upon as ordinary phenomena. He cited a number of illustrative cases, which showed, he said, that hypnotism and kindred subjects deserved the study of trained medical men. For such study, America ought to be a fertile field—the scene of such fusion and confusion of ancestral races and habits.

With this closed the exercises of the annual meeting, which was voted by all present to have been of unusual interest and enjoyment.

#### AMERICAN CLIMATOLOGICAL ASSOCIATION.<sup>1</sup> FOURTH ANNUAL MEETING.

##### THE LOCAL TREATMENT OF DISEASES OF THE RESPIRATORY ORGANS,

by DR. B. F. WESTBROOK, of Brooklyn.

The methods of treatment which had been employed were the direct introduction of coarse sprays, the use of the Evans inhaler, and the use of the pneumatic cabinet. In cases of chronic bronchitis, where the cough was severe, a spray of a solution of carbolic acid fluid extract of hyoscyamus or other sedative

remedies was employed. Where there is copious secretion, astringents are called for, and of these, tannic acid, iron, salts, and fluid extract of pinus canadensis had been employed. The pneumatic cabinet had been used with marked success in the treatment of chronic bronchitis. The patient is confined in the cabinet under a diminished pressure, the sitting lasting from ten to fifteen minutes. This may be combined with the inhalation of the spray. If there is much emphysema, the cabinet is not indicated. In using the cabinet in the treatment of chronic interstitial pneumonia and bronchiectasis, there is danger, if the pressure is great, of producing emphysema of those portions of the lung still accessible to the air. The pressure should not exceed one-half-an-inch of mercury.

In the treatment of phthisis, the best results are obtained in the early stages of the disease, or where the disease, although further advanced, is limited to a smaller portion of the lung. The use of sprays is beneficial in only so far as we desire to treat the co-existent bronchitis, or cavities connected with bronchi of the second or third order. In incipient phthisis, with very little bronchial catarrh, local treatment is probably of little service. These cases are best treated with compressed air. In a large proportion of the cases, we may hope to render the disease latent. The expansion of the lung favors the expectoration of the contents of the smaller tubes, and modifies the intrathoracic circulation. The sittings should be frequent—every day, or every second day. Ten minutes is usually sufficiently long for the patient to remain in the cabinet. The pressure should gradually be increased up to one-half to three-quarters of an inch. If used cautiously, this is the best method for the local treatment of incipient phthisis. With the Evans inhaler, his results had also been satisfactory.

In the treatment of advanced cases of phthisis, the first effort must be to cure or diminish the bronchitis. The pneumatic treatment then comes into play. This gives better expansion, improves the circulation, and alters the action of the trophic nerves. In all cases, internal medication has been combined with the local treatment. The more acute the disease, the higher the fever; and the more sudden the onset, the less can we expect to accomplish by treatment. In no case diagnosed as acute phthisis did treatment have the slightest effect.

THURSDAY.

The first paper of the morning session was entitled:

##### OBSERVATIONS UPON THE SANITARY ADVANTAGES OF TIDE WATER, VA., INCLUDING VIRGINIA BEACH AS A WINTER HEALTH RESORT,

by DR. A. Y. P. GARNETT, of Washington, D. C.

While no official records of the causes of death in this locality have been kept, the traditions of the inhabitants during the past hundred years and the observation of intelligent practitioners practising in this region, go to show that consumption is very rare. In other respects this locality is remarkably healthy. The average number of deaths per thousand from all causes during the past six years has been 10.66. The average death-rate in other sections of the State is 12 per thousand. The author was disposed to attribute some of the benefits which this locality presents, to the proximity of the Great Dismal Swamp, which has an area of thirty by ten miles, covered with cypress and evergreen trees. At Virginia Beach the forest

<sup>1</sup> Concluded from page 581.

comes down close to the sea. The atmosphere is remarkably dry and salt, exposed during the day shows no tendency to absorb moisture. The average temperature during the winter months is considerably higher than at other places along the coast. As compared with Atlantic City, we have the following figures:

	Virginia Beach.	Atlantic City.
January . . . . .	34.6°	30°
February . . . . .	39°	39°
March . . . . .	45°	38.2°

The average humidity is also much less than it is at Atlantic City.

## DISCUSSION.

DR. WALTER PLATT, of Baltimore. With reference to the rate of mortality given in the paper, I would state that I think that very little reliance is to be put in the statistics of sparsely-settled districts. It is extremely difficult in these sections to get the citizens to make a proper report of the deaths to the authorities.

## EVERGREEN FORESTS AS A THERAPEUTIC AGENT IN PULMONARY PHTHISIS.

by A. L. LOOMIS, M.D., of New York.

It has long been known that similar climates as determined by geographical and meteorological conditions have different therapeutic effects. That there is some relation between the development of organisms and atmospheric conditions is becoming more and more apparent. We know that cold and high altitudes render the air aseptic, but the degree of cold and the height required is so great that clinically it is not possible to derive much advantage from this fact. The effect of a purely aseptic air upon ulcerative processes is not so great as the effect of an atmosphere which is aseptic on account of the presence of antiseptic agents. The belief in the good effect of pine forests in cases of phthisis is quite unanimous, and the author thought that the clinical evidence in favor of their beneficial influence in these cases was unquestioned. The atmosphere in such regions is not only aseptic, but also antiseptic. Such an atmosphere contains considerable turpentine vapor, and we should therefore expect it to contain a certain amount of peroxide of hydrogen. It was the speaker's opinion that the majority of cases of phthisis die not directly from the lesions in the lung, but from the secondary septicæmia and pyæmia which is set up. It is impossible to apply to the ulcerations within the lung the antiseptic washing and dressing that is employed in external lesions, but if an antiseptic atmosphere can be obtained we may hope to counteract the secondary poisoning. Such an atmosphere will not destroy the bacilli, but it will accomplish much in the way of arresting the suppurative process. It was the opinion of the speaker that the atmosphere in the region of evergreen forests acts in a manner similar to the antiseptic agents which are successfully used to arrest suppurative processes in other portions of the body, and he thought that in all probability the active agent was the peroxide of hydrogen resulting from the oxidation of the turpentine vapor. While it is not possible for every one suffering with pulmonary phthisis to go to an antiseptic atmosphere, yet it is possible to render the air of any particular locality antiseptic. The evergreen forests should be preserved, and evergreen trees should be planted in the neighborhood of our homes.

## DISCUSSION.

DR. S. S. COHEN, of Philadelphia. The paper tends to confirm certain impressions which I have formed from an experience with certain methods of making an artificial climate. I have had excellent results in the way of alleviation of symptoms in phthisis by the inhalation of terebinthinate substances, especially where this has been associated with the inhalation of peroxide of hydrogen or oxygen. Under these inhalations I have seen laryngeal ulcers cicatrice, especially if they have been previously washed with the solution of peroxide of hydrogen.

The paper was further discussed by DRs. BRUEN, WESTBROOK, GARNETT, and MUSSER.

## THE CLIMATE OF THE SUB-PENINSULA PINELLAS, FLORIDA.

by DR. W. C. VAN BIBBER, of Baltimore.

## ENVIRONMENT IN ITS RELATION TO THE PROGRESS OF BACTERIAL INVASION OF TUBERCULOSIS.

by DR. E. L. TRUDEAU, of Sarnac Lake.

Environment evidently has an important bearing in reference to bacterial invasion. The author proposed to himself the following questions: (1) What results ensue when bacillar invasion and unhygienic conditions are made to co-exist? (2) Are unhygienic surroundings sufficient to cause phthisis when precautions are taken to exclude the bacillus? (3) Is bacterial infection always productive of tuberculosis when the animal is placed under the most favorable hygienic conditions? In order to answer these questions the following experiments were performed: Fifteen healthy rabbits were taken and divided into three sets of five each. The first experiment consisted in taking five of the rabbits, inoculating each with a pure culture of the tubercle bacillus and subjecting them to overcrowding in a dark cellar, with poor and insufficient food and other unhygienic conditions. In the second experiment, five rabbits were placed in a box and lowered into a pit dug in the ground, the mouth of the pit covered with earth with the exception of a trap-door for the introduction of food, which consisted of one small potato for each animal per day. So damp was the air that the box in which the animals were confined was constantly wet. The third set of animals were inoculated with the tubercle bacillus and turned loose on a small island, where they had abundant sunlight, fresh air and exercise. They were daily supplied with wholesome food.

The results of these experiments were that four of the first five rabbits died in three months, and extensive tuberculosis found. The fifth animal was killed at the end of five months and the same condition found. The second set of five rabbits were all living at the end of four months. They seemed to be as active as at the time the experiment began. They were then killed and careful examination revealed nothing abnormal. One of the third series of rabbits died at the end of one month, and on examination there was enlargement of the cervical and bronchial glands and tubercles in the spleen. The remaining rabbits continued in apparently good health, and were killed at the end of four months. They were loaded with adipose tissue, the flesh was firm and red, all the organs were normal, and even the seat of the punctures could not be made out. These experiments confirm the

view that the production of tuberculosis is a most complex process. Although the environment may bear out the relation of a predisposing cause to the microbe invasion, it is nevertheless a most potent factor in determining the future and the final results of the disease, and while we may not underestimate the pathogenic properties of the bacillus, the effect of environment upon the vitality is a factor which must not be ignored.

#### AFTERNOON SESSION.

The first paper was read by DR. WALTER PLATT, of Baltimore, on the

CLIMATE OF ST. MORITZ, UPPER ENGADINE, SWITZERLAND.

DR. A. C. PEALE, of the United States Geological Survey, Washington, presented

A CLASSIFICATION OF AMERICAN MINERAL WATERS.

ST. AUGUSTINE AS A WINTER HEALTH RESORT, was the title of a paper by DR. F. F. SMITH, of St. Augustine.

He described the geographical and climatic conditions existing in St. Augustine. An abundance of pure water is obtained from sixty artesian wells. This water is charged with sulphuretted hydrogen. Drinking-water is obtained by means of cisterns. A complete system of sewers is now being introduced. These will be flushed by the waste water from the artesian wells. The average temperature during the winter months of the past ten years has been as follows: November 63°, December 57°, January 55°, February 58°, March 61°, and April 67°. The average number of rainy days during the winter months for the past ten years has been 33, but on 19 of these occasions the rainfall was at night, so that there was really only 14 rainy days.

The following papers were read by title:

AN INVALID'S DAY IN COLORADO SPRINGS, by DR. S. E. SOLLY, of Colorado Springs.

THE CLIMATE OF SOUTHERN CALIFORNIA, by DR. H. S. ORMS, of Los Angeles, Cal.

PAS CHRISTIAN, MISSISSIPPI, AS A HEALTH RESORT, by DR. CHARLES LE ROUX, of Pas Christian.

The report of the Committee on the Congress of American Physicians and Surgeons was received and adopted. Dr. A. L. Loomis, of New York (with Dr. F. Donaldson, Sr., of Baltimore, as alternate), was appointed as the representative of the Association to the Committee on the Congress.

The following were elected to membership: Drs. A. L. Gilson, U. S. N.; W. D. McDougal, San José; A. C. Peale, U. S. Geological Survey; E. Wilos Linn, Los Angeles; F. F. Smith, St. Augustine; F. P. Henry, J. J. Yerick, and Thos. J. Mays, Philadelphia; Thos. C. Leatmer, J. Carey Thomas, and Walter Platt, of Baltimore; S. E. Solly, Colorado; S. W. Langmaid, Boston; S. E. Morgan, Washington; S. H. Chapman, New Haven; and S. A. Fisk, Denver.

#### OFFICERS FOR THE ENSUING YEAR.

President, Dr. A. L. Loomis, New York. Vice-President, Dr. A. Y. P. Garnett, Washington, and James T. Whittaker, Cincinnati. Secretary and Treas-

urer, Dr. James B. Walker, Philadelphia. Council, Drs. E. T. Bruen, Philadelphia; J. H. Tyndale, New York; F. H. Bosworth, New York; F. C. Shattuck, Boston; and R. G. Curtin, Philadelphia.

The Association then adjourned.

#### ASSOCIATION OF AMERICAN PHYSICIANS.<sup>1</sup>

##### SECOND ANNUAL MEETING.

##### CASES OF SEWER-GAS POISONING.

by DR. HENRY HUN, of Albany.

The author reported in detail the histories of twenty-nine cases coming under his observation, in which various diseases appeared to have been due to the inhalation of sewer-gas. He thought it probable that the following diseases may result from sewer-gas poisoning: vomiting and purging, separately or combined; general debility, fever, sore throat of a diphtheritic type, neuralgia, and perhaps, also, myelitis of the anterior horns. These conditions are frequently combined. Fever is frequently associated with the other symptoms. There is one group of symptoms which is almost always present; that is, loss of appetite, extreme prostration, and pain in the head. When this occurs as a chronic condition, we are justified in suspecting that the patient is suffering from sewer-gas poisoning.

##### DISCUSSION.

DR. A. W. JOHNSTON, of Washington. The theory of sewer-gas poisoning has gradually taken the place of malaria as the supposed cause of many obscure conditions, just as malaria superseded the liver origin of disease. The theory which attributes many of these conditions to the presence of sewer-gas has not been proven. In an examination of a number of men working in the sewers of this city, it was found that they were more healthy than those who worked above ground, and the same observation has been made in other places.

A CASE OF ANEURISM OF THE ABDOMINAL AORTA,<sup>2</sup>

by DR. ISRAEL T. DANA, of Portland, Me.

##### EVENING SESSION.

##### DISCUSSION. — HÆMORRHAGIC INFARCTION.

Opened by DR. W. W. WELCH, of Baltimore, referee.

The author first referred to the different theories which had been advanced to explain the occurrence of hemorrhagic infarctions. These are: (1) Changes in the wall of the artery obstructed. (2) The increased pressure with which the blood is sent in from the collateral circulation. (3) A regurgitant flow of blood from the veins. Numerous experiments had been performed by the author, with the assistance of Dr. Mall, of Johns Hopkins University, to determine which of these theories was the correct one. Hemorrhagic infarctions were produced in the intestines of dogs, and the method of experimentation was given in detail. He presented, as the result of his studies, the following conclusions:

(1) The blood which produces hemorrhagic infarctions comes chiefly, if not exclusively, from the collateral vessels.

(2) Hemorrhagic infarctions in the intestine can-

<sup>1</sup> Continued from page 586.

<sup>2</sup> See page 573, No. 24 of the Journal.

not take place merely from the reflux of blood from the veins.

(3) The blood-pressure is very low in the region where hemorrhagic infarction occurs, in consequence of occlusion of the main artery.

(4) A certain degree of force of the collateral circulation is required to produce a hemorrhagic infarction.

(5) No positive proof exists that a change in the vascular walls is essential to the production of a hemorrhagic infarction.

(6) The hemorrhage occurs by diapedesis.

(7) Where hemorrhagic infarction has taken place, the large and small veins are widely dilated with blood, and the arteries contain a smaller quantity of blood than normal. There is stasis in many of the veins and capillaries.

DR. WILLIAM OSLER, of Philadelphia, the conferee, referred to the

#### CLINICAL ASPECTS OF THE SUBJECT.

Among other cases coming under his observation, he reported the following: J. M., aged twenty, admitted to the Philadelphia Hospital October 10, 1886. He had never had syphilis, and was a healthy-looking man. He presented a clear history of typhoid fever, with a sickness of six weeks, two years previously. His present illness began with diarrhoea, one week before admission. For two days he had attacks of bleeding at the nose. There was temperature of 102°, with pain in the abdomen. There was no cardiac murmur, and examination of the lungs gave negative results. The splenic dulness was increased. By October 15th the temperature had reached 103°. There was almost constant delirium. There was some diarrhoea. Coldness of the feet appeared, and continued to increase in degree, and extended up the leg. The legs became livid, and no pulsation could be detected in the femoral and popliteal vessels. The patient died on the 17th. It was supposed that there was thrombosis of the iliac veins, with gangrene of the legs, which is one of the rare sequences of typhoid fever. At the autopsy, it was found that the lower portion of the abdominal aorta, and also the two iliac arteries, were plugged with thrombi. There was general peritonitis. The right kidney presented a red-brown infarction. There were no ulcerations in the bowels; no endocarditis. The lungs were normal. There was an infarction in the spleen. During life the blood was examined for microbes, but none were found. After death, microbes were found in the spleen.

Hemorrhagic infarction of the liver, under ordinary circumstances, is impossible. A. B., a hard drinker, was admitted to the hospital September 27th. His illness began, in the previous June, with vomiting and swelling of the abdomen. The dropsy steadily increased. He died two days after admission. At the autopsy, a large amount of fluid was found in the peritoneal cavity. There was nothing special found in the heart or lungs. The liver was remarkably cirrhotic. Through the right half of the right lobe, there were scattered numerous reddish-brown areas. The walls of the portal vein were thickened, and a large brown thrombus occupied the upper portion of its trunk. The branches passing to the right lobe were filled with clots. The hepatic artery and vein were normal. In this case, the hemorrhagic infarctions were in all probability due to the cirrhosis of the liver, which had caused more or less obstruction of the

branches of the hepatic artery. The only other case of infarction of the liver which the speaker had been able to find, was one reported by Recklinghausen.

In the intestine, hemorrhagic infarctions are met with in two forms: one involving the mucosa, the other affecting the entire gut. The former not infrequently ends in ulcerative necrosis. The latter form of hemorrhagic infarction is not common in man. In the horse it is frequently seen, resulting from thrombi formed from verminous aneurisms of the mesenteric and its branches. This is a common cause of the severe and fatal colic so frequently seen in these animals. In conclusion, the speaker referred to the fact that, in the lung, it was not uncommon to have a vessel blocked without the production of an infarction. An occasional cause of thrombotic infarction is local disease of the pulmonary artery. It sometimes results from the endarteritis induced by beginning tubercular processes.

#### DISCUSSION.

DR. REGINALD H. FITZ, of Boston. I should like to report a case which, in my experience, is quite unique. It was that of an elderly man with globular thrombi in the left ventricle. Emboli were transferred to the splenic artery, but at first were not sufficient to completely occlude the artery. The spleen became enlarged and thrombi formed in the splenic veins and from this point the thrombus extended into the superior mesenteric vein. As a consequence, hemorrhagic infarction occurred in the intestine.

#### FRIDAY.—SECOND DAY.—MORNING SESSION.

##### BERGEON'S METHOD OF TREATING PHTHISIS.

by DR. E. T. BRUEN, of Philadelphia.

With reference to the effect of the injections of sulphuretted hydrogen on the bacillus tuberculosis, Bergeon does not claim that their number has been reduced in any considerable proportion of cases. In the treatment of phthisis there are three main indications. The first is to secure some agent which will act upon the cause of the disease. Climate, diet, and hygiene serve to modify the predisposing causes, but if the bacillus be the real cause of the disease, we lack any agent which will destroy it. The second indication is to prevent the destruction of the tissues, for it is found that as the vitality is increased the number of organisms in the sputa is diminished. The third indication is to control special symptoms which present themselves. Since February last, I have employed Bergeon's method of treatment in sixty-one cases. Forty-four of these cases have been benefited, but of these only three appeared to regain full health. Two of these were cases of incipient phthisis with apparent consolidation of the apex of the right lung. In one of these cases the bacillus tuberculosis was not found, although five examinations were made. In the other case the bacillus was found. In these cases the apparent recovery has been associated with a decided increase in weight. I believe, however, that the disease is simply latent. The third case was one of broncho-pneumonia. In all the other cases the lesions were more or less advanced with the presence of cavities and profuse expectoration. In the fifteen cases in which a negative result was obtained, the treatment in some was followed by temporary benefit. The good results have consisted in lessening of the expectoration, diminution of the cough, lowering of the temper-

ature, and suspending of the night sweats. In most of the cases there was a diminution of from fifteen to twenty beats in the pulse, and a diminution of half a degree in the temperature, during the administration of the gas. Even in those cases which were benefited, and in which the temperature had been brought to normal, there would be during the progress of the treatment, occasional outbreaks with a return of the fever and the other symptoms. These, however, disappeared under a continuance of the injections. In order to determine the effect of the treatment on the bacillus, Dr. E. O. Shakespeare made a number of examinations during the progress of the cases. There has been no diminution in the number of the bacilli. It was, however, thought that in those cases where the treatment had been continued for some time, the reaction of the bacilli to the staining fluid was less marked.

Two cases have died. In one of these an autopsy was made. This case had been under treatment for two months. The walls of the cavity were moderately smooth and firm, but there was no tendency to cicatrization. The results were of a decidedly negative character.

In most of the cases a solution made by the addition of five grains each of sodium sulphide and sodium chloride to a pint-and-a-half of water was the solution employed. In some cases the strength of the solution had been gradually increased, but where no benefit had been obtained from the weak solution, the stronger solution did not act with any better results. The quantity of gas employed at each injection has been about one gallon. If there is pain the strength of the solution may be decreased or a smaller quantity of the gas may be given. At least an hour should be consumed in each administration of the gas. The patient should rest quietly in bed an additional half hour until the gas has been absorbed. The admission of atmospheric air should be avoided.

In cases of diarrhoea his experience had been unfavorable except where the gas was given in very small quantities. Chronic peritonitis is a contra-indication to the use of this plan of treatment. In about one case in every ten, he had observed the reaction of sulphuretted hydrogen, when a paper treated with acetate of lead had been applied to the mouth. This would indicate that a very small amount of the gas reaches the lung, and that the efficiency of the treatment does not depend upon the use of a strong solution. In no case has any injurious results been seen. In some cases where strong solutions were employed, the appetite and strength seemed to be impaired.

Bergeon's method is chiefly valuable in those cases attended with bronchial catarrh. He had had very little good effect in those cases where there was thickening of the lung without much catarrh. The speaker feared that the trouble and detail necessary to the successful application of this method and the limitations of its power would cause it to be set aside for other therapeutic measures.

#### CLINICAL NOTES ON BERGEON'S METHOD OF TREATING PHTHISIS,

by F. C. SHATTUCK, M.D., of Boston.

The amount of gas contained in the water recommended by Bergeon is only three cubic centimeters, an extremely small quantity. It seemed to him almost impossible that such a small quantity of sulphuretted

hydrogen could have any appreciable effect. The solution which Dr. Bruen employed probably contained one hundred and fifty cubic centimeters of sulphuretted hydrogen. Bergeon attributes the good effects to the antiseptic influences of the gas on the suppurative processes. Dr. Trudeau has found that cultures of the bacteria of suppuration and of the bacillus of tuberculosis are unaffected by being kept in an atmosphere of sulphurous acid gas. The speaker had treated only seven cases by this method. They were in an advanced stage of the disease. He had seen such improvement follow careful dietetic and hygienic management, that he had not much confidence in the results claimed for special methods of treatment in these cases. Any new method of treatment will often have an apparently beneficial effect through its influence on the mind, even in those cases which are incurable. Six of the cases treated suffered with phthisis, and five were an advanced stage of the disease. One was a case of chronic bronchitis, with asthma and emphysema. Four of the patients suffered with more or less pronounced collapse from the use of the injections. Nausea, vomiting, and diarrhoea occurred in several cases. In one case, although the patient was weak, no local or general ill effect was observed. In another case, the treatment was continued four weeks with no ill effect. The only benefit obtained was a diminution of the expectoration. In the case of asthma and chronic bronchitis, thirty-four enemata were given. The improvement was no more rapid than on a previous occasion, when the patient had been treated in the same general way, with the exception of the gas. He presented the following conclusions:

(1) Toxic symptoms may follow the injection of sulphuretted hydrogen gas. These are nausea, vomiting, general depression, collapse, and perhaps headache.

(2) Strong artificial solutions of sulphuretted hydrogen gas, with carbonic acid gas, are apt to cause abdominal discomfort. The risk of this is diminished by heating the solution of the former gas.

(3) This is not by any means a specific. If useful at all, it is only as an auxiliary to the more usual methods of treatment.

(4) The only benefit which we have seen that could be fairly attributed to the enemata was a diminution in the amount of the expectoration.

In conclusion, the author stated that the impression which he had formed was that the good results which had unquestionably followed this method of treatment were attributable, in large part, to the stimulation induced by the employment of a novel method of treatment, which makes the patient feel that something is being done for him.

#### DISCUSSION.

DR. WILLIAM PEPPER, of Philadelphia. I have, with the assistance of Dr. J. Crozier Griffith, employed this method in a certain number of cases. The injections were given to thirty-four cases; but in ten of them, either on account of the pain induced, or for other reasons, the treatment was discontinued. In the remaining twenty-four cases, the treatment was continued, on an average, twenty-five days. Other treatment was frequently combined with the use of the injections. A daily temperature record was kept in sixteen cases. In four, there was more or less reduction. In eleven, there was no appreciable effect. In one temperature increased, but this was probably a

coincidence. In no case was the temperature brought from a febrile to a continuously normal condition. The fall was not more than is seen in similar cases under other methods of treatment.

In twenty cases in which the weight was recorded there was in eight more or less gain. Eight pounds in thirty-seven days, was the greatest gain. In six cases the weight remained stationary, and in six it was diminished.

The improvement in cough was not marked. The expectoration was somewhat diminished in four out of twenty-four cases. Search was made for the bacilli in thirty cases, and they were found in twenty-seven. In eleven cases the examination was repeated, and only in four was there any apparent decrease. Cases of night sweats were not numerous. In one they were checked and in seven improved. Physical examination showed no improvement in a single case. The enemata had a decided hypnotic influence in three cases. The only unpleasant symptom of any real moment was colic. This was complained of in eleven out of twenty-four cases. Three others suffered so much that the treatment could not be repeated. The colic was not often controlled by giving smaller quantities of the gas, nor did it seem to be influenced by the slowness of the injection. This method of treatment is seldom of real benefit, although it is occasionally of benefit by relieving certain symptoms.

Dr. H. C. Wood, of Philadelphia. After studying the cases treated by this method, I came to the conclusion that it was of a certain amount of benefit. I saw that the method of employing the gas presented many objections. The sulphuretted hydrogen should accomplish the same results when absorbed by the stomach as when taken up by the large intestine. I have therefore administered the sulphuretted hydrogen gas in carbonic acid water. Water at the ordinary temperature takes up two or three times its volume of sulphuretted hydrogen. I think that this is a distinct addition to pulmonary therapeutics. I have tried it in certain cases with benefit. I would call attention to the fact that this is not a new method. In connection with many of the sulphur springs of Europe, there are chambers fitted up where pulmonary catarrh can be treated by inhalation of the gas.

Dr. BEVERLY ROBINSON, of New York. I have employed this method for the past two months, and my impression is that it is a valuable adjunct to our methods of treatment. The pain which is experienced in many cases may be due to the fact that there are ulcerations in the intestine. These may be present without the existence of diarrhoea. I have under treatment a case in which tubercular deposits in the lungs is associated with ulceration of the larynx. I thought that this would be a good case to observe the influence of the gas on the local condition. The man has received a daily injection for the past ten days. There has not been the slightest change in the appearance of the larynx.

Dr. GEORGE L. PEABODY, of New York. I have followed all the details of this method of treatment as given by Bergeon and have used the water of Aubon which he recommends. My results have not been materially better than those of the gentlemen who have preceded me.

Dr. F. FORSHEIMER, of Cincinnati. I have treated thirteen cases with this method. I have performed the following experiments. I have treated two or

three patients in the way recommended, for some time. Then I have substituted for the sulphur solution plain water, and continued the injections for a time. I have also given the carbonic acid gas by injection, and lastly, I have for two weeks treated these cases with the injection of air, using the Bergeon apparatus. The patients in these experiments of course did not know that any change had been made in the gas employed. As far as I have been able to judge, the patients treated with air did about as well as those treated with sulphuretted hydrogen. It is clear to me that the introduction of air is not the cause of the pain in the Bergeon method.

Dr. JAMES T. WHITTAKER, of Cincinnati. I have used the sulphuretted hydrogen gas both by injection and also by inhalation. The effects under both methods of administration seem to be the same. It mitigates the cough, relieves the fever, and lessens the night sweats. It however is not a specific.

(To be continued.)

#### THE AMERICAN LARYNGOLOGICAL ASSOCIATION.<sup>1</sup>

NINTH ANNUAL CONGRESS.

Dr. C. C. RICE, of New York, read a paper entitled

GLANDULAR AND CONNECTIVE-TISSUE HYPERTROPHIES IN THE LATERAL WALLS OF THE PHARYNX,

The next paper was on

THE GALVANO-CAUTERY IN THE TREATMENT OF HYPERTROPHIED TONSILS,

by Dr. CHARLES H. KNIGHT, of New York.

The speaker first referred to the objections to the cutting operation. The principal of these is the danger of hæmorrhage. At times, the tonsil is so deeply situated that it is not possible to get the tonsil-tome over it. In other cases, the patients positively object to the cutting operation. There are two methods of using the galvano-cautery: one is by puncture, and the other by the snare. The former is much the slower. Not more than three punctures should be made at each sitting. The number of sittings required vary from five to ten. The latter method with the snare is much the quicker. The current should be used intermittently, and contraction should only be made during the passage of the current. He did not recommend this as a universal operation. In the majority of cases, the cutting operation is easier and better. It should be used where there was danger of hæmorrhage, and he was almost disposed to say that the galvano-cautery should be used in all cases in adults.

#### DISCUSSION.

Dr. C. E. SAJOURS, of Philadelphia. I have tried galvano-puncture, but it is quite tedious. I have modified the method by making a puncture, and then introducing chromic acid. I think that the use of the snare is an excellent method.

Dr. A. W. MACCOW, of Philadelphia. In the treatment of these cases, I make a distinction in the methods employed. In the glandular enlargements I have used puncture, while in the interstitial hypertrophies I have not used it, for in these cases you are apt to get cicatrices, which give considerable trouble. I

<sup>1</sup> Continued from page 589.

am not satisfied that the puncture is any better than chromic acid fused on a probe and passed into a crypt.

DR. BEVERLY ROBINSON, of New York. I have long held that we know of no simple operation in surgery. There is nothing that is so unpleasant to me as to remove large tonsils from a small child. Although, as a rule, the hæmorrhage is readily controlled, yet I always undertake the operation with a good deal of reluctance. I am disposed to think that galvanocautery is one of the best methods. We can thus remove many tonsils that give us a good deal of apprehension.

DR. C. C. RICE, of New York. Very little can be accomplished with the cautery in the large white hypertrophies in children. The cutting operation is what must be done in these cases. In adults, however, galvanocautery is the most useful measure.

The President, DR. E. FLETCHER INGALLS, of Chicago. I have used the cautery, but a certain amount of soreness has always followed its use. In children, in order to avoid the pain and nervous shock attending the cutting operation, I am in the habit of etherizing the patient and removing the tonsil with the snare.

DR. HARRISON ALLEN, of Philadelphia. While it may be proper to do the cutting operation in certain cases of hypertrophied tonsils which have been selected with great care, I think that we err in making broad statements in regard to this operation. I believe that the number of cases in which serious hæmorrhage occurs is much larger than is supposed. All the disastrous cases are not reported. I am not willing to perform the operation until I have studied the case very carefully. Other measures should be first used, and the knife resorted to at the last.

DR. D. BRYSON DELAVAN, of New York. Where the operation of tonsilotomy is done with proper care and with proper styptics at hand, I think there is not much danger from hæmorrhage. At first there is a gush of blood, but in a few seconds this stops. I have found it very difficult to get authentic reports of cases in which serious hæmorrhage followed this operation.

DR. MORRIS J. ASCH, of New York. With reference to this question of hæmorrhage, I would state that some time ago one of my assistants removed a small section of the tonsil. The next day there was serious bleeding, and it was found necessary to keep up pressure on the tonsil for six hours before it was controlled. In another case that I know of, it was found necessary to tie the common carotid artery.

DR. J. SOLIS COHEN, of Philadelphia. I think that a great deal of the trouble in tonsilotomy is due to the adhesion of the anterior fold of the palate to the tonsil. It has been my custom to first free the tonsil from the palate. In many cases, the tonsil will then go down without any treatment whatever. I think that the hæmorrhage comes from the cutting of this fold, for, as the vessels run in a vertical direction, they are cut obliquely. I have never been able to use the cautery with the success of the reader of the paper. In my cases, it has required from twenty to fifty sittings. One plan that I have followed is, after having penetrated the tonsil transversely, to try to cut my way out, then to cut in the other way, and thus remove a portion of the tonsil. In this way, by making the application every day or every other day, the tonsil is removed in the course of a month or six weeks.

#### NOTE ON A FREQUENT CAUSE OF NASAL HÆMORRHAGE,

by DR. BEVERLY ROBINSON, of New York.

In the experience of the author, the ulcerations in atrophic rhinitis had been a most frequent cause of hæmorrhage. He had found himself unable to detach the crusts from these ulcerations, either by the use of douches or sprays, so well as by the employment of ointments. In the course of two or three days, the patient is able to blow out the crusts. He had found no ointment act so well in imbibing the crusts and producing changes in the ulcerations as the ammoniated mercury ointment of the Pharmacopœia, of one-half or full strength, made up with vaseline. In applying plugs in the case of hæmorrhage, he had found nothing so useful, especially in children, as Steele's flexible probe, recommended by Dr. J. Solis Cohen. He had found the so-called sheet-sponge very useful as a plug. This may be cut in long strips, and pushed through the nose until the bleeding is controlled.

#### SATURDAY, THIRD DAY. — MORNING SESSION.

##### CONSTITUTIONAL CAUSES OF THROAT AFFECTIONS,

by S. W. LANGMAID, M.D., of Boston.

He suggested that the most interesting lesson to be drawn from the observation of the lesions in throat trouble is that there is some underlying cause, which may be external or intrinsic. Our attention has been directed too much to the local condition and to atmospheric influences. Why atmospheric conditions are active at one time, and not at another, is a matter worthy of consideration. One of the most intractable diseases which we have to treat is chronic recurring coryza. Sometimes destruction of the mucous membrane of the nose is sufficient, but, as a rule, the treatment must take in all the circumstances of the life of the sufferer. A sense of a lump in the throat, so often complained of, is often an indication of an overloaded colon, and more good is done by a dose of castor oil than by local treatment. The so-called clergyman's sore throat, or follicular laryngitis, has its origin not in the necessary use of the throat, but the sedentary life, with errors in diet and other conditions, play an important part. Throat trouble is sometimes a rheumatic or gouty manifestation, and treatment has to be directed to this condition. Local treatment, in many throat troubles, is of the nature of repair; constitutional and hygienic treatment must be in the direction of a renewal of the normal processes. Swelling and congestion of the mucous membrane, hypertrophy of the tonsil, elongation of the uvula, etc., must be regarded as symptoms, and the symptoms will not be banished unless the underlying constitutional abnormality be removed.

#### DISCUSSION.

DR. W. C. GLASGOW, of St. Louis. I agree with the author that many of these local conditions are symptomatic. Many of them are due to some derangement of the digestive apparatus.

DR. J. SOLIS COHEN, of Philadelphia. This is an important paper. With reference to rheumatic sore throat, I have had doubts as to the correctness of this term. I have found symptoms closely like those of this affection follow the application of the galvanocautery to the pharynx and tonsils. Patients often suffer pain in the trapezius muscle from an application of the cautery to the tonsil. I have found the use of

guaiac as serviceable here as where the trouble is due to exposure to cold. Whether this is nervous or not, I cannot say. I treat my patients constitutionally, using purgatives two or three times a week. There is one form of pharyngitis in adolescents which I have considered to be due to over-feeding.

DR. D. BRYSON DELAVAN, of New York. In this country, we pay too little attention to the hygienic surroundings which are employed at the various spas abroad. The method of treatment is very beneficial in cases of interference with the portal circulation, and in gouty diathesis. I have found the salicylates of great service in some of these cases of throat trouble. Habitual constipation usually accompanies chronic diseases of the pharynx. I have used, in these cases, the official pill of iron and aloes, directing that one be taken at night.

The following papers were read by title:

AFFECTIONS OF THE CRICO-ARTENOID ARTICULATION,  
by GEORGE W. MAJOR, M.D., of Montréal.

CANCER OF THE LARYNX,

by HOSMER A. JOHNSON, M.D., of Chicago.

A CASE OF RECURRING LARYNGITIS HÆMORRHAGICA,  
by C. E. BEAN, M.D., of St. Paul.

(To be continued.)

#### AMERICAN MEDICAL ASSOCIATION.<sup>1</sup>

THIRTY-EIGHTH ANNUAL SESSION, CHICAGO, JUNE  
7TH, 8TH, 9TH AND 10TH, 1887.

At the Third Day's Session the committee on nominations, through its chairman, Dr. Brodie, of Detroit, submitted its report. There was some opposition to its adoption, but it was not strong enough to accomplish anything, and the report went through almost unanimously. It was as follows:

President, A. V. P. Garnett, Washington; vice-presidents, Duncan Eve, Nashville, Tenn., Darwin Colvill, New York, Charles J. O'Hagan, North Carolina, A. Stedman, Col.; secretary, W. B. Atkinson, Philadelphia; assistant secretary, J. S. Ransohoff, Philadelphia; treasurer, R. J. Dunglison, Philadelphia; trustees, L. Connor, Mich., E. O. Shakespeare, Pennsylvania, W. T. Briggs, Tenn.; judicial council, J. H. Murphy, Minn., J. M. Toner, Washington, J. R. Bartlett, Wis., A. B. Sloane, Kansas, X. C. Scott, Ohio, A. W. McClure, Iowa, J. W. Stormant, Kansas, J. F. Hubbard, Ind.

Cincinnati was recommended as the place of the next meeting, and the second Tuesday in May, 1888, as the time; and committees were also reported with the following gentlemen as chairmen: Necrology, J. M. Toner, Washington; State Medicine, J. C. Montgomery, Alabama.

#### RUSH MONUMENT.

The Committee on the Rush Monument reported that it was eminently appropriate to place a monument of Dr. Rush at Washington, and that the total subscriptions amounted to \$389. The report was adopted.

#### CREMATION.

The Committee on Cremation presented a report stating that it is only in cases of epidemics that the

value of cremation was really manifest, and as long as such things do not occur, no particular attention is paid to it. They, therefore, recommended that inasmuch as the present form of cremation does not meet with the approbation of the people, a just form of cremation should be adopted, by caustic lime or chloride of zinc being used to destroy the body speedily, and that people dying of zymotic diseases should be buried by the authorities. The report was referred to the section of State Medicine.

DR. F. M. JOHNSON, chairman of the Section on Obstetrics and Diseases of Women, read a paper in which antiseptic treatment is favored in obstetrical treatment.

DR. GEORGE H. ROHÉ, of Baltimore, Professor of Hygiene in the College of Physicians and Surgeons, read a paper on

#### RECENT ADVANCES IN PREVENTIVE MEDICINE,

of which the following is an abstract:

In the field of epidemiology and endemiology, the progressive extension of the fifth great pandemic of cholera first claims attention. Extinguished in the portions of Italy, France and Spain ravaged in 1885 and 1886, it has slowly invaded southeastern Italy, Hungary, and other Austrian possessions, and has been imported into South America, whence it threatens the United States by several routes. The danger of invasion of this country is at present greater than at any time within the past three years.

Yellow fever inoculation, as practised by Freire in Brazil, and Carmona in Mexico, has claimed a large share of the attention of sanitarians within the year. The claims made in favor of this method of preventing the scourge are now being subjected to an official investigation authorized by the United States government.

Diligent search has been made for the specific organism supposed to be the effective agent in vaccine virus, but without definite success. The results obtained are not entirely negative, however, and one may cherish the hope that a solution of this problem will soon be reached.

The relation of a peculiar disease of cows to scarlet fever, and the discovery of a specific microbe in the blood in the latter disease have attracted much attention. The restriction of scarlet fever will doubtless be more thoroughly effected as soon as physicians are convinced of its bacterial nature, and clearly comprehend its mode of transmission. Statistics were given showing what has already been accomplished in this field.

Sternberg, Fränkel and Weichselbaum have studied the specific microbe of croupous pneumonia, which the former regards as identical with his micrococcus Pasteuri; in which opinion both the other authors mentioned coincide. Dr. Baker, of Michigan, has also shown that croupous pneumonia seems to be dependent upon a cold dry atmosphere.

Measures for the restriction of pulmonary tuberculosis were adverted to. Tuberculous patients should not be treated in the same hospital wards with non-tuberculous individuals, and prompt disinfection of the sputa and other discharges should be practised, in order to diminish opportunities for infection. General sanitary measures should, however, not be neglected in the warfare upon the bacillus. There is danger that a too exclusive attention to the microbial factors

<sup>1</sup> Continued from page 591.

of disease will narrow our views of epidemiology, and preventive medicine.

It seems to be established that the microorganism discovered in the intestinal lesions and discharges in typhoid fever is the cause of this disease. The fact that this microbe may preserve its vitality for a considerable time in water and ice, has been shown by Bolton, Wolff, Hugel, Prudden and others. This, together with the well-known history of outbreaks of this disease, undoubtedly depending upon pollution of drinking-water, should make prompt measures of disinfection imperative in every case. The physician fails in his duty who neglects measures for the thorough destruction of the typhoid infection existing in the intestinal discharges.

The importance of disinfection of bedding, clothing, and other personal and household articles in contagious diseases demands that health authorities should have under their control establishments for disinfection, which can be carried out on a large scale and at public expense. Such institutions are now in use in Berlin, Disseldorf, Göttingen, Strasburg, Breslau, Leipsic, Danzig and other cities in Europe. The results are pronounced to be exceedingly beneficial. Steam under pressure is regarded as the best disinfecting agent.

Quarantine, a word which for more than five centuries has been synonymous with barbarism, is becoming under modern methods a safeguard to the public against infection and an advantage instead of obstruction to commerce. The results achieved at the model quarantine station at New Orleans, encourage the hope and almost warrant the prediction that the days of the quarantines of detention, whether by sea or land, are past, and that quarantine in future will mean simply thorough disinfection of fomites, and of course, effective isolation of persons already infected.

Cremation of garbage seems to be the best method yet devised for the inoffensive destruction or final disposal of solid city wastes.

The irrigation system of sewage disposal has steadily won favor. In Berlin, Breslau and Danzig, in Germany; Birmingham in England, and Pullman and other places in this country, it has been in successful operation. Chemical precipitation and purification of sewage has also been adopted with satisfactory results in various German cities. A board of distinguished engineers recently recommended the same system for the city of Providence, R. I.

Professor Vaughan's discovery of a very poisonous ptomaine in cheese, ice cream and milk undergoing certain chemical changes has been confirmed by a number of investigators in various parts of the country. Vaughan's suggestion that tyrotoxin may be found to be the poison that causes cholera infantum, opens up a new field of investigation in which every physician must of necessity be interested.

Analysis of food and drugs made during the year in Massachusetts and New York, show the wide extent to which adulteration is practised, and how the people are defrauded. Among the most startling instances are olive oil, of which 68 samples out of 91 were spurious. Vinegar was adulterated in 79 samples out of 116; mustard, 124 times in 211; white pepper, 63 times in 128; black pepper, 41 times in 71; mace, 29 times in 45. Of nine samples of horseradish examined, only one was found genuine. A precipitate of uncrystallizable sugar and coloring matter and chlo-

ride of tin (poisonous) is sold to candy-makers for making confectionery. Citrate of iron from respectable manufacturers contained three and one-half per cent. of quinine instead of twelve per cent. demanded by the pharmacopoeia. Authority and means should be given to the health authorities to protect the public from these frauds, many of which are a source of danger to life and health.

Statistics collected by the speaker show that five-sixths of the inhabitants of cities in this country have no facilities for bathing except such as are afforded by a pail and sponge, or an easily accessible river, lake, or other body of water. The establishment of public baths is urgently recommended, both as a sanitary as well as a moral measure. Tub or pool baths are objectionable both on account of expense and lack of privacy in the matter. The spray baths in use in the German and French army barracks are recommended. These are not expensive, either in first cost or administration, and allow each bather absolute privacy and the opportunity for a thorough cleansing in clean water. Public baths should be open the year round, and not only during the summer.

A number of instances are grouped together showing how the enforcement of appropriate sanitary measures has saved life. In Michigan, the saving of life from one disease (scarlet fever) has amounted during the past eleven years to 3,718, or 338 per year. In 1886 appropriate sanitary measures saved the lives of 298 persons who would have died of diphtheria if such measures had not been enforced. In England and Wales the average annual saving of life due to sanitary measures has amounted in the five years ending 1885, to 62,000. In Baltimore, a marked reduction of deaths from infectious diseases has followed the enforcement of certain sanitary precautions. In Memphis the death-rate has been reduced in six years from 35 per thousand to 23.80 per thousand. In Chicago the reduction in mortality in the last five years has been from 25.69 per thousand to 19.46 per thousand, a net saving of 17,214 lives in that city during that period.

While all advances in sanitary administration have doubtless contributed to produce these good results, the main influence is to be attributed to three factors. These are compulsory notification of infectious diseases, prompt and effective isolation of the sick and infected, and thorough disinfection of all infected articles and sources of infection. These must be the watchwords of the practical sanitarian of the future.

The report was sent to the committee on publication.

The Treasurer reported that the receipts of the Association during the year were \$21,723.32; disbursements, \$20,319.45; leaving a balance of \$1,403.77. The report was ordered filed.

The librarian reported that 158 titled works had been added to the library during the year, and that the library now contained 2,650 titled works, representing 7,500 volumes. There are 600 unbound volumes. He asked an appropriation of ten dollars for indexing. The report was ordered placed on file, and the ten dollars granted.

DR. GASTON moved that three members of the Association be appointed to act with the commission appointed by the President to investigate the Carmona system of inoculation for yellow fever. Adopted.

The Treasurer asked an appropriation from the

funds of the Association toward the expenses of the International Medical Congress.

Dr. DAVIS moved that \$500 be appropriated, but a delegate moved to amend by making it \$1,000, as the Illinois society had voted \$750. After some conversation, in which it was suggested that a subscription be taken up as well, so as to make the congress a financial success, the amendment was adopted and \$1,000 granted.

Dr. NATHAN S. DAVIS then submitted a resolution which he said he would call up for action at the session this morning. It was to the effect that the regular graduates of such dental and oral schools and colleges as required of their students a standard of preliminary or general education and a term of professional study equal to the best class of the medical colleges of this country be recognized as members of the regular profession of medicine, and eligible to membership in the association. He also submitted a resolution in reference to the annual banquets of the association, which, if adopted, will relieve the non-wine-drinking members from helping to pay the wine bills of the others.

(To be continued.)

#### RHODE ISLAND MEDICAL SOCIETY.

THE seventy-sixth annual meeting was held in Providence, June 9, 1887, the President, Dr. HORACE G. MILLER, in the chair.

The annual report of the Secretary showed the present active membership to be 199.

Dr. CHARLES H. LEONARD, Treasurer, read his annual statement. Income for the year, \$1,166.81; outgo, \$1,144.94. The printing fund has amounted to \$2,069.72. The building fund was increased to \$1,326.32.

Dr. J. W. MITCHELL reported verbally for the Building Committee, and the Society authorized the committee to examine suitably located buildings or sites with view to lease or purchase.

From the annual report of the Committee on the Library it appears that 1,014 volumes were added during the year. The Society's collection now includes 6,644 volumes and 3,000 pamphlets.

Dr. GEORGE L. COLLINS, on behalf of the Trustees of the Fiske Fund, announced that a prize of two hundred dollars had been awarded to Dr. James B. Field, of Lowell, Mass., for the best essay on Membranous Enteritis. The Trustees propose the following subjects for next year: I. "What changes has the acceptance of the germ theory made in measures for the prevention and treatment of consumption?" II. "Antisepsis in medicine and surgery; with original observations and experiments."

For the best essay worthy of a premium, on either subject, the Trustees offer a prize of two hundred dollars. Competing essays must be sent before May 1, 1888, to Dr. George L. Collins, Secretary of the Trustees of the Fiske Fund, Providence, R. I.

The following officers were elected for 1887-8: Horace G. Miller, President; Albert Potter, First Vice-President; John W. Mitchell, Second Vice-President; William R. White, Recording Secretary; George D. Hersey, Corresponding Secretary; Charles H. Leonard, Treasurer. Board of Censors: Ariel Ballou, James H. Eldredge, J. W. C. Ely, George P.

Baker, Benjamin Greene, Eugene Kingman, Job Kenyon, J. Howard Morgan.

Standing Committees were chosen as follows:

On Necrology, C. W. Parsons, Albert Potter, Eugene Kingman. On Publications, G. W. Porter, R. F. Noyes, C. M. Godding. On the Library, T. Newell, H. G. Miller, G. D. Hersey, G. W. Porter, G. L. Collins. On the Museum, W. J. McCaw, G. T. Swarts, F. B. Fuller, C. M. Godding, S. A. Welch.

The President announced the re-appointment of Dr. Frank B. Fuller on the Examining Board for a term of five years.

As recommended by the Censors, Drs. Irving S. Cook, James W. Craig, Franklin M. Eaton, Everett Flood, Elmer E. Moore, and John W. Keefe were admitted to Fellowship.

Dr. J. H. ELDRIDGE called attention to a case of criminal abortion which resulted fatally a few months ago, and concerning which the government has taken no action, though it is one of the few cases in which the facts are clearly established. As the present stringent law against abortion was secured through the efforts of this Society, Dr. Eldredge suggested the propriety of taking some action looking to its enforcement. On motion, the chair appointed a Committee of three, Drs. C. H. Fisher, G. W. Jenckes, and D. O. King, to press the prosecution of this and similar cases of malpractice.

The annual address was given by the President, Dr. Horace G. Miller, his subject being, "The Bacteriology of the Eye."

The annual dinner was served in Blackstone Hall, Dr. Charles H. Leonard presiding as Anniversary Chairman. After-dinner speeches were made by his Excellency Governor Davis, Rev. J. Hall McIlvaine, Drs. Henry W. Williams, of Boston, Benjamin E. Cotting, of Roxbury, A. H. Johnson, of Salem, Mass., P. Cassidy, of Norwich, Conn., E. Kingman, J. W. Mitchell, W. H. Palmer, T. Newell, H. G. Miller, O. C. Wiggin, and F. G. Eddy.

#### Recent Literature.

*Anatomy, Descriptive and Topographical, in 625 Illustrations.* By CARL HEITZMANN, M.D. English Edition. By LOUIS HEITZMANN, M.D. New York, J. H. Vail & Co. Vienna: W. Braumüller. London: Dulau & Co. 1887.

The success of Heitzmann's atlas, for it is an atlas to all intents and purposes, has been undeniable. It is not free from faults, but the clearness and beauty of the plates and the comprehensiveness of the plan have atoned for them. The work before us is a new edition intended for the English and American market. German words have been expunged from the plates and the text has been translated into English. We are told in the preface that it moreover has been often materially altered to bring it more in unison with English works.

This naturally suggests the question, what is the use of a text at all in a work of this kind? The names of the important parts appear on the plates, and the text is utterly insufficient as a description. The attempt to reproduce it in English has by no means improved it. Take as an example the account of the carpal bones. "Each bone presents six surfaces: a superior,

an inferior, a posterior or dorsal, an anterior or palmer, an internal or ulnar, and an external or radial surface. The dorsal surface of all the bones is convex, the palmer surface concave. The concavity of the palmer surface of the carpus is bounded by four prominences " . . . which are described very briefly. Now as Heitzmann includes the pisiform in the carpus, the statement that each bone has six sides is quite inadmissible, and even if it were true, whoshall say that such a statement is worth the making? By referring to the German of the first edition we see that in the second sentence the attributes of concavity and convexity are applied to the carpus as a whole, which one ignorant of the fact, would, we think, hardly suspect from the English. A worse mistake occurs in the account of the orbit. We could hardly believe our eyes when we read, "behind the circumference, superior — and externally lies the lachrymal groove," till the concluding words "*Fossa glandule lacrymalis*," explained that it was a mistake of translation and not of anatomy. Still it is inexcusable to translate "fossa" by "groove," especially as there is a lachrymal groove in another part of the orbit. On making further comparisons we met unexpected inaccuracies in the old edition which reappear in the new.

For instance, the shape of the patellar surface on the front of the femur is incorrect. The spiral twist of the esophagus round the aorta is greatly exaggerated. The view of the *zona orbicularis* at the back of the hip-joint is absurd. The author follows Weber in having a part of the ilio-femoral ligament make a loop under the neck of the femur with the above name. Even if some fibres take this course, which we do not believe, we know that they do not in the least resemble the strong band that is figured here. And after thus describing the ilio-femoral ligaments, the author or translator should have abstained from adding that "this is frequently designated the Y-ligament of Bigelow."

We find in both editions, the liver as flat as a pancake with a sharp edge in front and a thick one behind. If the author was not familiar with His's work, he might at least have copied from Quain. The folds of the peritoneum in the great omentum and meso-colon have given rise to much discussion, and we do not think that all the details are as yet surely settled. The first edition gave the old-fashioned diagram which, though incorrect, for the fœtus, may, we think represent the condition of the parts in the adult, but the figure in the new edition is the only one we know of which it can be said with absolute certainty that it is wrong at any stage and according to any theory. The plates of the brain are good, on the whole, but there certainly should be a horizontal one showing the lenticular nucleus and the knee of the internal capsule. A good addition is that of two plates showing injections of the sheaths of the tendons of the hand and wrist.

The plates are, for the most part handsome, but some seem to us decidedly inferior to the rest. If we have been severe in our criticisms it is because the success of the work has brought it into prominence and we feel that before bringing out a new edition especially designated for new fields, the author should have corrected old errors and have brought the work fully up to the times. If this is to be considered as the artistic work of an amateur in anatomy, it deserves high praise, which must be withheld if the author enters the anatomical ring as a "professional." T. D.

## THE BOSTON Medical and Surgical Journal.

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### THE CROWN PRINCE OF GERMANY.

RECENT numbers of the foreign medical journals furnish us with accounts of the illness of the Crown Prince, from which we gather the following details. It appears that His Imperial Highness's voice has been somewhat altered in quality since his trip to Italy last autumn, but, according to the *Lancet*, it was not until January that he "began to suffer from slight hoarseness, and early in March, Professor Gerhardt discovered a warty growth attached to the left vocal cord, which he treated by touching with the electro-cautery. Its size having been reduced by this means, the Prince was advised to go to Ems, where he remained about six weeks. On his return he was found to be no better as regards his hoarseness, and the growth had somewhat increased in size. Professor Tobold was then called in, and after a consultation with the Emperor's and Crown Prince's physicians, Von Lauer and Wegner, it was thought that the growth was of a malignant nature, and at their request Dr. Bergmann's opinion was sought. He was inclined to confirm the diagnosis. It was decided that an external operation was necessary, but whether it was to be excision of the larynx or thyrotomy was not settled definitely. In consequence of the strong feeling at Court that this operation ought not to be done unless absolutely unavoidable, on account of its attendant danger to life and great impairment of voice, even if successful, Dr. Bergmann declined to take the responsibility as the operator, unless the impossibility of the removal of the growth by intra-laryngeal methods was confirmed by Dr. Morell Mackenzie. Immediately on arriving in Berlin, on Friday, May 20th, a consultation was held, at which Dr. Mackenzie met all the medical men above mentioned. On making a laryngoscopic examination, Dr. Mackenzie found a sessile growth about the size of a large split pea, but in shape more elongated, attached to the posterior portion of the left vocal cord on its inner and upper surfaces. He urged that the more serious operation should not be performed before a portion of the growth had been re-

moved for microscopic examination. This had not been done because it was considered impossible, owing to its small size and sessile character. The following morning another consultation was held, at which Dr. Mackenzie succeeded in removing with forceps a small piece of the growth. Professor Virchow, having examined microscopically the portion taken away, pronounced it to be a benign growth. He said that the epithelial cells were increased in size and number. He further stated that, as the portion removed included a complete section of the growth and the surface of the vocal cord beneath, as clearly demonstrated by the presence of some of the longitudinal elastic fibres of the latter structure, he considered that there was no reason to suppose that any remaining portion of the growth was of a cancerous nature."

Dr. Mackenzie, as we are informed by cablegrams in the daily papers, has made a second visit to Berlin, and again succeeded in removing a portion of the growth. He is reported as adhering to the opinion that the growth is of a benign, warty character, while the German physicians seem to be inclined to regard it as cancerous. The diagnosis of these cases often presents the greatest difficulty, yet it is just in such instances that it is of the highest importance, as the proper treatment depends upon the nature of the neoplasm. If it be a simple papilloma, it can be readily and successfully attacked by intra-laryngeal methods. If it be of a malignant nature, it becomes a question of partial excision of the larynx. By recognizing intra-laryngeal malignant disease in its earliest stage, when but a small area of one portion of the organ is involved, and unaccompanied by swollen glands or much inflammatory disturbance, good results may be expected by removing the diseased tissue. When, however, the disease has progressed so as to involve both sides of the larynx, total extirpation of the organ can hardly be considered a justifiable procedure. We trust that Dr. Mackenzie's diagnosis will prove to be correct in the case of the Crown Prince. He is supported in his opinion by the high authority of Prof. Virchow who, from his microscopic examination of the second portion of the growth removed, pronounced it a pachydermia verrucosa; there were enlarged papillae and epithelial cells, but no morbid products in the submucous tissues. Whatever the result of this difficult case may be, Dr. Mackenzie's wise and timely counsel at least postponed a serious operation, and it is not likely that this able laryngologist will allow the moment to pass when partial excision of the larynx would be too late. If he has prevented a removal of the larynx, and effects an ultimate cure, it will be a triumph for laryngeal surgery and diagnosis impossible to exaggerate, and of which not only laryngologists, but the profession in general, will be proud.

— Ten per cent. of the students in the University of Zurich are women. 29 of them are studying medicine, 14 philosophy, and 2 political economy. There are now 48 female students of medicine in London, and in Paris 103.

#### THE REGULATION OF MEDICAL PRACTICE IN MAINE.

THE readers of the JOURNAL will probably recall the "Druidic University" of Maine and the remarkable story of the reporter who procured a degree from that institution during the past winter. The exposure of the institution was followed by the introduction in the legislature of a bill for the registration and licensing of physicians. The bill was passed and signed by the governor. Subsequently, however, the governor recalled the bill, erased his signature and sent a veto message to the legislature. This somewhat singular conduct called forth a series of resolutions from the Maine Medical Association, which deal very plainly with the subject. The resolutions, which were unanimously adopted rehearsed the circumstances of the case, and proceeded as follows:

*Resolved*, That as this association possesses fuller knowledge of the circumstances of the case than any other body of citizens, it is peculiarly its duty to inform the people of the State of the outrage which has been perpetrated upon them and acquaint them with the conduct of the men whom they have honored with some of the most exalted offices in their gifts.

*Resolved*, That in the opinion of this association, the governor, by abstracting the registration act from the statutes of the State, has violated his oath of office which requires him to uphold and execute, rather than to overturn and destroy, the laws.

*Resolved*, That his refusal to submit the question of legality of his performance to the Supreme Court, knowing that no other man could obtain its opinion on the matter during the present administration, is an admission of the indefensibility of his attitude, and displays either the disposition of a despot or servility of a pusillanimous agent of unscrupulous political masters.

*Resolved*, That as a body of citizens who believe that the safety of our constitutional liberty depends upon the support and faithful execution of all laws which are legally made, and who are unwilling to submit without protest to atrocious imposition, this association looks with great alarm upon the effort of our chief magistrate to defeat the will of the people by attempting to overthrow the statute, whatever opinion of its merits were entertained by him or his advisers.

*Resolved*, That this association will use all honorable means in its power to procure restoration of the registration law to its just place among other statutes of the Commonwealth, and calls upon every citizen who values his rights to assist in this patriotic work with his voice, and if necessary his vote.

The exposure and subsequent legislation gain added interest to the people of Massachusetts from the fact that the former director of the Druidic University has already settled in Boston and offers his services to any who may desire them through the medium of the Boston press.

#### MEDICAL NOTES.

— Our readers will observe that in this and the two preceding numbers of the JOURNAL we have introduced supplementary pages, to make room for our full reports of the various State and National medical societies that have held their sessions recently.

— The President of the Board of Health at Key West reports twenty-six cases of yellow fever, and nine deaths up to June 14th. Subsistence supplies and medicines are being furnished the yellow-fever hospital from the Marine Hospital stores at Key West.

— The late Paul Bert once, *experimenti gratiâ*, had himself vaccinated and then inoculated with virus from a man dying with small-pox. He did not take the disease.

— The Paris correspondent of the *Therapeutic Gazette* relates the particulars of a suit, interesting from the point of view of life insurance. It is well known that the French law makes it a penalty for a physician, surgeon, pharmacist, or midwife to divulge secrets which he has learned in a professional capacity. That this law is not a dead letter was shown by the fact of the conviction some two years ago, of Dr. Watelet, who to vindicate himself from a published criticism as to his treatment of a certain case, wrote to a daily paper an account of the symptoms, for which he was promptly prosecuted by the District Attorney without the intervention of the family supposed to be aggrieved, and condemned to pay a fine. The publisher of the article was also fined, and on appeal, both sentences were confirmed. Now a French physician of Besançon was called upon after the death of a patient of his, to furnish the life insurance company with a certificate of the cause of death. This, remembering the law and the fate of Dr. Watelet, he refused to do. Thereupon, the heirs began a civil action against him and the insurance company, including both as co-defendants, so as to obtain the money either with or without the certificate. Before the court the doctor's plea was the penal statute enjoining professional secrecy; that of the company, the policy clause providing for the production of a death certificate. The court accepted the doctor's defence, exonerating him, free of all costs, and ordered the company to pay the full amount demanded, together with all the expenses and costs of the lawsuit.

— The reading and recitation term of the Long Island College Hospital, which began in March, closed early in June. During the three months' session, the students have had the advantages of the new maternity wards of the Hospital, and have attended two abortions and seventeen confinements. In attendance upon these cases, they witnessed the following complications and operations: Complete inversion of uterus and its reduction, one; placenta prævia, two; transverse presentations, three; twins, one; hydrorrhea (post-partum), one; forceps deliveries, two; breech, two; version, external, two; version, internal, one; restoration of perineum, three; curetting after abortion, two.

#### BOSTON AND NEW ENGLAND.

— The tenth annual report of the managers of the Adams Nervine Asylum has reached us, covering the year ending April 30, 1887. The report of the resident physician, Dr. S. G. Webber, shows 108 cases treated during the year, the admissions having been 80. Against this latter number, we find 296 applications for admission. Of these, 111 were rejected for various reasons, leaving 185 who were more or less suitable for treatment. As will be seen, less than one-

half of these women could be received. The average stay of all the patients was 4.27 months; of those who recovered, 4.47 months; of those who were relieved, 5.07; and of those not relieved, 1.63 months. The greatest number of the patients admitted were from twenty-five to thirty years of age, and nearly three-fourths of all were unmarried. The expenses of the year were about \$35,000, of which \$8,565 was collected from patients, leaving over \$26,600 to be paid from the funds of the Asylum.

#### NEW YORK.

— At the last meeting of the Academy of Medicine the present season, held June 16th, reports from the various sections were read, and Dr. Laurence Johnson read a memorial of the late Dr. E. Darwin Hudson. Later in the evening, the President, Dr. A. Jacobi, entertained the Fellows of the Academy and their friends at a reception at his house, and the members of the Orthopaedic Association went there in a body from their dinner at the St. Nicholas Club.

— An inmate of the city insane asylum on Ward's Island, having died under somewhat suspicious circumstances, an investigation of the case has been made by a coroner's jury, which rendered a verdict to the effect that the immediate cause of the man's death was violence used by two of the attendants. They also censure the examining physicians for not giving a more correct account of the cause of death. The two attendants referred to have been committed to the Tombs to await the action of the Grand Jury.

— The American Orthopaedic Association was successfully inaugurated on the 15th. The organization committee consisted of Drs. Gibney, Shaffer, and L. H. Sayre, and their arrangements for the meeting, which occupied two days, were most satisfactory in every way. The scientific proceedings were of a somewhat impromptu character, no formal programme having been made out, but were full of interest and value. From a social point of view, the gathering was a delightful one, and all honor for their generous hospitality is due the organization committee, who, on the evening of the 16th, secured for the Association and a few guests three boxes at the Casino, where the comic opera of "Erminie" is running, and on the following evening gave a most elaborate and enjoyable dinner at the St. Nicholas Club. At the latter, informal speeches were made by Drs. Lewis H. Sayre, W. T. Bull, Gibney, Shaffer, Bradford, of Boston, and A. S. Roberts, of Philadelphia. At the meeting, the following officers were elected: President, Dr. Shaffer, of New York; Vice-Presidents, Drs. Bradford, of Boston, and A. S. Roberts, of Philadelphia; Secretary and Treasurer, Dr. L. H. Sayre, of New York. Among those present, were Drs. Morton and A. S. Roberts, of Philadelphia; Bradford, of Boston; Packard, of Hartford; Hodgson, of St. Louis; and L. H. Sayre, Shaffer, Gibney, Stillman, Judson, Ketch, Ridlon, Berg, Dillon Brown, Knickerbocker, H. L. Taylor, Develin, and C. W. Stimson, of New York.

— Dr. John Q. Bird, for three years President of the Board of Police of Jersey City, and recently appointed one of the visiting-staff of the Jersey City Hospital, died of septicæmia on the 17th of June. The first patient whom he attended at the hospital was an Italian who had both his legs broken in a railway accident, and the case terminated fatally. In making the autopsy he received a slight cut on one of his fingers, which was promptly treated with carbolic acid. Violent inflammation set in, however, and in spite of the most active exertions of Dr. T. R. Varick, the surgeon in attendance, fatal blood-poisoning resulted. Dr. Bird was about forty years of age, and for the past seventeen years had been connected with the Jersey City Police Department, either as police surgeon or as a member of the governing board. He leaves a widow and four children.

— The Board of Aldermen having recently adopted some resolutions in regard to food adulterations, Mayor Hewitt has sent to that body a report from the Board of Health on this subject, in which it is stated that the experience of the department has been that cases of hurtful adulteration of food and liquor are comparatively rare. The adulterations usually encountered are made in the interest of bulk and cheapness, and the materials used for this purpose are seldom in any other respect hurtful, than that they are likely to be indigestible. In the case of liquors, even of imitation wines, into which no grape-juice enters, it has been found that, if the alcohol is eliminated, only the fruit-syrups of the soda fountain remain. It is difficult, if not impossible, to find on sale in New York a sample of confectionery with poisonous coloring or flavoring. There has also been a marked improvement in the character of the milk and meat supply of the city, and such adulterations as are known to exist are simply frauds on the purchaser, which, as frauds, do not come under the notice of the Board. "The dangers with which our sense of duty prompt us to cope with most vigorously," the report goes on to say, "are those arising from the sale of contaminated food. This we are doing as well as we are able, considering the insufficient means at our command. . . . I am of the opinion that the statements published by the authority of the American Society for the Prevention of the Adulteration of Food, quoted in the resolutions of the Common Council, greatly exaggerate the facts — not as to the prevalence of adulteration, but as to the effect upon the public health of the kinds of frauds perpetrated."

— Notwithstanding the boasted efficiency of the hospital ambulance service in New York, there seem, at times, to be defects in its working, and a very serious case of apparent negligence has just been reported to the Commissioners of Charities and Correction by Mayor Hewitt, from facts coming within his immediate knowledge. In a letter to the Commissioners, he states that about ten o'clock on the morning of June 8th, a painter who was working on a house across the street from his own residence fell, and was

crushed to a shapeless mass, although life was not extinct. The accident was witnessed by his (Mayor Hewitt's) family, and a gentleman who was present immediately sought the police to give a call for an ambulance. No ambulance, however, arrived, and at length Mr. Hewitt sent specially to Bellevue Hospital for the purpose of procuring one. He was informed that there was no ambulance available. In the meantime, a call had been made upon the New York Hospital, and the answer came back that they declined to send an ambulance. At length, after three-quarters of an hour, during which the man lay in a dying condition upon the sidewalk, Mr. Hewitt availed himself of the offer of a friendly driver of a spring wagon, and the man was conveyed to the hospital. "I cannot imagine," concludes Mr. Hewitt, "that he will recover from the serious injuries that he received, but certainly no one who witnessed the scene will ever forget the impression of inhumanity which must have been made upon him as he realized that the public arrangements at Bellevue and the New York Hospital were entirely unavailable for a poor, suffering creature. I can understand that the call upon the ambulance at Bellevue Hospital may have exhausted the supply, and that occasionally it will happen that delay of this sort will occur; but I particularly call your attention to this case in order that, if there be any lack of proper provision of ambulance service at the hospital, it may be supplied at once."

### Miscellany.

#### ABSTRACT OF ADDRESS DELIVERED BY M. CHARCOT AT THE FUNERAL OF M. VULPIAN.<sup>1</sup>

I HAVE accepted the painful duty of expressing, in the name of the Section of Medicine and Surgery, the sorrow felt in the Academy of Sciences at the unexpected loss of one of its members who has most honored and best served it. But I fear the duty is very difficult to perform.

I met Vulpian first thirty-seven years ago at the hospital of la Pitié, which we had both entered as internes. We were both Parisians, in our twenty-fifth year. A perfect fellowship of sentiments, of ideas, of tendencies, even of difficulty in self-support, quickly united us; it was for life.

My new colleague was even then attached to the Museum of Natural History. From the beginning of his career Vulpian divided his activity between the laboratory and the wards of the hospital. He was early led to understand that without the assistance of experimentation, simple observation is often lacking in power; while, on the contrary, experimental data, at least so far as concerns human pathology remains almost always without legitimate application when it is not constantly submitted to clinical control. The great characteristic of Vulpian's scientific life is this, that intimate union of the physician and the experimenter.

Nominated physician to the hospital in 1857, *agrégé*

<sup>1</sup> Archives de Physiologie, March, 1887.

of the Faculty of Medicine in 1860, Vulpian was called in 1864 to succeed Flourens at the Museum of Natural History in the chair of comparative physiology, which he occupied until 1866. The success of the young professor was brilliant. At each step he gave proof of a maturity of mind and an elevation of thought whose precocity is not less admirable than their greatness.

In 1866 he published "*Leçons sur la Physiologie générale et comparée du Système Nerveux*." At the death of Jean Cruveilhier the chair of pathological anatomy became vacant in the Faculty of Medicine of Paris, Vulpian was nominated. His election met the most active resistance on the side of the irreconcilable partisans of the ancient methods. Microscopic pathological anatomy, purely descriptive, had had its time. The microscope was now needed to penetrate the interior of the organ, to study the lesions of the anatomical elements. Vulpian, alone, among the *aggrégés* at that time, was sufficiently prepared by his earlier studies to accept the responsibility of such a weighty task.

In 1872, he occupied the chair of experimental and comparative pathology left vacant by the retirement of our eminent confrère, Brown-Séquard. This was for Vulpian a return to the studies of his choice. During this period, terminated by his death, he published some of his most important works; in 1875 "*Leçons sur l'appareil vasomoteur*." In this he demonstrates the dilating action of the chorda tympani on the vessels of the tongue. "*Leçons sur l'action Physiologique des Substances Toxiques et Médicamenteuses*" (1881) contain remarkable studies in regard to jaborandi, curare, strychnia. Finally in "*Traité des Maladies du Système Nerveux*" are found the innumerable observations and discoveries made by Vulpian in the domains of nervous pathology.

His works on physiology are found in memoirs and publications and reports of various societies. That which characterizes Vulpian as a physiologist is the absolute exactitude, the methodical arrangement and the extreme moderation in his conclusions.

May 22, 1876, Vulpian attained the object towards which he had directed all his efforts, he was received into the Institute, succeeding Andral.

Vulpian can be characterized by one word; he was the man of duty. Never was he seen to hesitate before a task which he had undertaken to perform. When he felt himself becoming feeble he resigned as physician to the Hotel-Dieu, and gave up his private practice.

Vulpian was a great and good heart, a family man, ready to sacrifice all for his own, a master adored by his pupils, a firm and devoted friend. He has had few enemies; in his rivalries he showed loyal, generous, chivalric emulation.

### Correspondence.

#### POISONING BY IVY.

[As the season for ivy-poisoning is developing, the following graphic account of his own case by a sufferer, may not be without interest to the profession, though coming from a layman.]

MR. EORTON.—Early in September I cut with a scythe

some "poison-ivy," so called (botanical name "*Rhus toxicodendron*,") growing along a fence around the garden of the house I then lived in at Natick, Mass. It had previously blossomed, and the fruit was then formed. I touched it with my hands, I suppose, five or six times during the half hour I was cutting it down. The next day I noticed during the morning a slight tingling sensation in the eyes.

The seat of the pain seemed to be on the inner side of the lids and not in the eye itself. I supposed it to be due to excessive use of my eyes, or to reading or writing on the cars, which I frequently did for half an hour morning and evening. The pain soon developed into itching, which continued with increasing severity for two or three days. Towards evening my face also began to itch and was slightly swollen. Up to this time no eruption was noticed, but no very careful examination was made. During the night the swelling increased a little but the itching was intense and unremitting, especially near the eyes.

The next morning small pimples or vesicles were visible beneath the skin over the whole surface of the forehead, about the eyes and face, being most prominent where the itching had first begun, but visible everywhere, in some places very near together. This was accompanied by so much swelling of the face that it was with great difficulty I could see at all. Twenty-four hours later the pimples had become plainly visible where they could previously be distinguished only with great difficulty. They gradually assumed the appearance of small blisters, filled with a fluid resembling water, which could be easily broken by squeezing, or when smartly rubbed. With the formation of the vesicles, the itching began to subside, but returned at intervals for three or four days, while the skin gradually healed, the old cuticle peeling off as the new one was formed. From the forehead and eyes the eruption had gradually extended over the portions of the face not covered by the hair and whiskers, as far as the ears, where it remained longer than almost anywhere else. It began to appear on my hands about three days after beginning on my face, when it followed substantially the same course, but lasting perhaps two or three days longer. In a week after being attacked my hands were at the worst stage.

The disease next proceeded to my feet and ankles and a narrow area on the inside of each thigh about 20 or 25 centimetres long, by 4 or 5 centimetres wide (except in one small place where it was perhaps 8 centimetres wide). On the feet it was confined for a few days to the outside and inside of the rear part of the ankle. From thence it gradually extended over the whole surface of the foot, subsiding after about a week, except at the places where it had first appeared, from which I could not dislodge it for a week or ten days longer. The feet were not as painful during the day as the hands and face had been, but at night the difference was far more than made up by the most horrible itching I have ever experienced, which continued with short intervals of comparative comfort during the whole night. No pain I ever had was anything like so intolerable.

The general progress of the disease everywhere was as I have indicated it on the face, namely, first the tingling and itching, then the appearance of pimples, gradually changing to blisters and as gradually subsiding in a few days. In three or four weeks after the first attack the disease had almost disappeared. During its last stages there appeared on my body, particularly on my back, red blotches or pimples of quite large size which were somewhat painful for two or three days, but which then grew smaller and disappeared without discharging anything. I do not know whether or not they had any connection with the ivy-poisoning.

I began trying so-called "remedies" as soon as I became aware what the trouble was. Nearly every person I met knew of and recommended to me a remedy certain to cure the disease in a day or two, but of all I tried none seemed to check in any degree its progress. It seemed to run its regular course everywhere, in spite of anything I could do. I began bathing the parts affected with dilute bay rum; then I used Pond's extract of Hammamelis, and afterwards

what I supposed might be a stronger extract, put up by an apothecary in Boston. This was applied externally several times a day, and taken internally two or three times daily, in doses of about one-fourth teaspoonful.

It appeared to have no permanent effect, but rendered the itching somewhat more tolerable as long as the surface was wet. After this I tried a solution of bicarbonate of soda, and receiving no benefit, I next used a solution of acetate of lead with no perceptible effect. Then I tried tincture of lobelia, as procured from the druggist, diluted with ten times its bulk of water. This did relieve the itching to some extent, but to nothing like the degree I was led to expect from the accounts I heard of its use by other people. My physician at last recommended to me a solution of one part of bichloride of mercury diluted with one thousand parts of water. This, when applied often, relieved the itching to a great extent (but not entirely), and the disease then became much more easily endurable. I obtained the greatest relief by bathing the parts affected

alternately with the mercurial solution and a very weak gruel, made from indian meal and hot water, and allowed to get cold before using. Had I used these remedies when the disease first made its appearance, I think I should have suffered comparatively little discomfort. I also tried later the fluid extract of *Grindelia robusta*, diluted with alcohol so as to feel only a little sticky when applied to the skin. This, applied often, considerably allayed the itching, but not to the same degree as the mercurial solution.

Nothing, however, seemed able to check or much retard the process of the disease: when it appeared in a part it ran its course in from about four to seven days, and then gradually subsided. The wrists and ankles had slight eruptions and periods of itching for a few days at a time at intervals for several months afterwards, especially in warm weather, but these symptoms gradually disappeared, and entire relief from the attacks was at length obtained.

Very truly yours,

GEO. W. BLODGETT, *Civil Engineer.*

# REPORTED MORTALITY FOR THE WEEK ENDING JUNE 11, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Acute Lung Diseases.	Diarrhoal Diseases.	Diph. & Croup.	Measles.
New York . . . . .	1,481,920	609	212	19.52	14.24	4.44	9.12	.50
Philadelphia . . . . .	993,801	389	168	13.52	11.16	2.55	3.96	2.86
Brooklyn . . . . .	745,108	253	95	15.60	15.04	3.12	7.80	.78
Chicago . . . . .	725,000	—	—	—	—	—	—	—
St. Louis . . . . .	420,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	133	59	20.72	13.32	4.44	6.66	2.22
Boston . . . . .	400,000	176	46	12.11	19.38	1.14	3.42	3.42
New Orleans . . . . .	242,750	125	59	32.00	12.00	27.50	.80	.80
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
District of Columbia . . . . .	210,000	86	34	15.00	16.24	6.96	1.16	—
Pittsburgh . . . . .	210,000	27	40	74.00	25.90	29.60	18.50	7.40
Montreal . . . . .	186,257	—	—	—	—	—	—	—
Milwaukee . . . . .	170,000	—	—	—	—	—	—	—
Providence . . . . .	121,000	—	—	—	—	—	—	—
Richmond . . . . .	100,000	—	—	—	—	—	—	—
New Haven . . . . .	80,000	—	—	—	—	—	—	—
Nashville . . . . .	65,000	35	15	17.16	15.44	14.30	—	—
Charleston . . . . .	60,145	51	27	21.56	9.80	15.64	—	—
Portland . . . . .	40,000	45	25	28.86	13.33	—	—	5.68
Worcester . . . . .	68,383	14	2	7.14	1.14	—	7.14	8.88
Lowell . . . . .	64,051	31	11	32.25	9.69	3.23	16.15	—
Cambridge . . . . .	59,690	16	5	12.50	31.25	6.25	—	9.69
Fall River . . . . .	56,863	19	8	10.52	15.78	—	5.26	6.25
Lynn . . . . .	45,861	13	4	7.69	30.76	—	—	—
Lawrence . . . . .	38,825	14	6	7.14	21.42	—	—	—
Springfield . . . . .	37,577	—	—	—	—	—	—	—
New Bedford . . . . .	33,383	9	2	—	44.44	—	—	—
Somerville . . . . .	29,992	13	5	—	23.07	—	—	—
Salem . . . . .	28,084	11	3	—	18.18	—	—	—
Holyoke . . . . .	27,894	6	3	—	33.33	—	—	—
Chelsea . . . . .	25,709	7	3	—	33.33	—	—	—
Taunton . . . . .	25,674	8	0	37.50	12.50	12.50	—	—
Haverhill . . . . .	21,795	10	0	20.00	30.00	—	—	—
Gloucester . . . . .	21,713	4	1	—	25.00	—	—	—
Brookton . . . . .	20,783	8	2	—	25.00	—	—	—
Newton . . . . .	18,750	7	2	—	14.28	—	—	—
Malden . . . . .	16,407	8	3	25.00	12.50	—	12.50	—
Fitchburg . . . . .	15,375	4	0	—	25.00	—	—	—
Waltham . . . . .	14,609	6	0	15.66	33.33	—	—	—
Newburyport . . . . .	13,716	4	1	—	25.00	—	—	—
Northampton . . . . .	12,896	—	—	—	—	—	—	—

Deaths reported 2,061: under five years of age 466; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoal diseases, whooping-cough, erysipelas and fevers) 466, consumption 327, lung diseases 195, diarrhoal diseases 127, diphtheria and croup 123, measles 45, typhoid fever 35, scarlet fever 18, whooping-cough 17, malarial fever 14, cerebro-spinal meningitis 13, erysipelas seven, puerperal fever seven, small-pox (New York) two. From typhoid fever, Philadelphia 13, Boston five, Baltimore four, New York and Pittsburgh three each, New Orleans two, District of Columbia, Lawrence, Haverhill, Malden and Waltham one each. From scarlet fever, New York seven, Philadelphia four, Brooklyn three, Boston, Baltimore and District of Columbia one each. From whooping-cough, Philadelphia six, Baltimore three, New York, Brooklyn, Boston, New Orleans, District of Columbia, Pittsburgh, Nashville, and Fall River one each. From malarial fever, New York seven, Brooklyn four, District of Columbia two, Balti-

more one. From cerebro-spinal meningitis, New York nine, Baltimore, New Orleans, District of Columbia and Haverhill, one each. From erysipelas, Philadelphia three, New York, Brooklyn and Boston, one each. From puerperal fever, New York, Philadelphia, Brooklyn, Boston, Portland and Lowell, one each.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,059, for the week ending May 28th, the death-rate was 20.4. Deaths reported 3,621: infants under one year of age 810; acute diseases of the respiratory organs (London) 3,333, measles 251, whooping-cough 143, scarlet fever 52, diarrhoal diseases 31, diphtheria and croup 23, fever 22.

The death-rates ranged from 15.7 in Sunderland to 32.3 in Manchester; Birmingham 17.2; Blackburn 20.1; Hull 23.9; Leeds 17.7; Leicester 17.1; Liverpool 25.3; London 19.0; Newcastle-on-Tyne 25.9; Nottingham 19.2; Sheffield 20.1. In Edinburgh 20.2; Glasgow 23.1; Dublin 24.1.

The meteorological record for the week ending June 11, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, June 11, 1887.	Barom- eter.	Thermometer.		Relative Humidity.				Direction of Wind.		Velocity of Wind.		State of Weather.		Rainfall. Duration, Hrs. & Min. Amount in Inches.
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	7.00 A. M.	3.00 P. M.	7.00 A. M.	3.00 P. M.	
Sunday, ... 5	30.27	53.0	57.0	50.0	65.0	72.0	75.0	N.E.	E.	S.	4	10	9	C. O. O.
Monday, ... 6	30.18	55.0	76.0	52.0	58.0	52.0	82.0	S.W.	W.	S.W.	12	14	14	O. F. C.
Tuesday, ... 7	30.02	68.0	79.0	58.0	79.0	63.0	86.0	W.	S.	S.E.	14	10	1	F. F. C.
Wednesday, ... 8	29.87	66.0	74.0	57.0	91.0	78.0	96.0	S.E.	S.W.	S.W.	4	10	10	C. O. F.
Thursday, ... 9	29.75	61.0	81.0	55.0	84.0	86.0	83.0	W.	N.E.	N.E.	12	24	9	F. O. O.
Friday, ... 10	30.13	55.0	62.0	53.0	83.0	72.0	69.0	N.E.	E.	E.	9	14	10	F. C. C.
Saturday, ... 11	30.31	60.0	68.0	48.0	64.0	41.0	53.0	N.	S.E.	S.	8	7	8	C. C. C.
Mean, Week.	30.076	61.4					72.4							

O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; t., Inappreciable.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 11, 1887, TO JUNE 17, 1887.

BAXTER, J. H., colonel and chief medical purveyor. To proceed to New York City for the purpose of inspecting the medical purveying depot at that place. S. O. 133, A. G. O., June 10, 1887.

PAR. 15 S. O. 52, A. G. O., March 5, 1887, is so amended by Par. 9, S. O. 133, A. G. O., June 10, 1887, as to direct that Major Chas. H. Alden, Surgeon, be relieved from duty in Department of Dakota, about June 20, 1887, and he is granted leave of absence from the date when so relieved to include August 27, 1887.

FRYER, B. E., major and surgeon. Found incapacitated for active service by an Army Retiring Board and granted leave of absence until further orders on account of disability. S. O. 133, A. G. O., June 10, 1887.

HALL, JNO. D., captain and assistant surgeon. Leave of absence extended one month. S. O. 136, A. G. O., June 14, 1887.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JUNE 18, 1887.

WALTON, THOMAS C., surgeon. Ordered June 15, for examination preliminary to promotion as medical inspector.

PRICE, A. F., surgeon. Detached from special duty, Annapolis, Md., proceed home and wait orders.

FLINT, JAMES M., surgeon. Detached from the "Albatross" and ordered to the Smithsonian Institution.

WILLSON, W. G. G., passed assistant surgeon. Ordered to the Receiving Ship "Independence," Mare Island, Cal.

#### SOCIETY NOTICE.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—The Thirty-sixth Meeting of the Association will be held in the building of Columbia College, at New York, from Wednesday morning, August 10, until Tuesday evening, August 16, 1887. For all matters pertaining to membership, papers and business of the Association, address the Permanent Secretary, Mr. F. W. Putnam, at Salem, Mass., up to August 6th. From August 6th until August 17th, his address will be Columbia College, New York, S. Y.

#### ERRATUM.

In the account of operations at the City Hospital before the Massachusetts Medical Society, June 7th, three cases of cataract are mentioned as operated on by Dr. Williams, according to von Graefe's method: whereas the mode employed was, extraction through a corneal flap of medium size, as recommended by Lebrun, Liebreich, von Wecker, and others.

#### BOOKS AND PAMPHLETS RECEIVED.

Report of the Commissioner of Education for the Year 1884-85. Washington: Government Printing Office. 1886.

Wiener Klinik. Vorträge aus der Gesamten Praktischen Heilkunde ridgirt von Dr. Anton Bum. Die Mechanische Behandlung der Lumbago. Von Dr. J. Schreiber. Wien, 1887.

Granular Conjunctivitis with and without Pannus. By W. Cheatham, M.D. (Reprint.)

Twenty-Ninth Annual Report of the Washingtonian Home, 41 Waltham Street, Boston. 1887.

Transplantation of a Rabbit's Eye into the Human Orbit. By Charles H. May, M.D. 1887. (Reprint.)

A Contribution to the Pathology of the Cerebellum. By E. C. Seguin, M.D. New York: J. H. Vall & Co. 1887. (Reprint.)

Infants, their Chronological Progress. By Prof. Stanford E. Chaillet, M.D., Tulane University of Louisiana. 1887. (Reprint.)

Mental Epilepsy. By L. W. Baker, M.D., Superintendent Hospital Cottages for Children, Baldwinville, Mass. 1886. (Reprint.)

A Case of Internal Hydrocephalus, due to Disease (Thombotic) in the Wall of the Straight Sinus. By Wm. Browning, M.D., of Brooklyn. 1887. (Reprint.)

Stricture of the Urethra: its Diagnosis and Treatment facilitated by the Use of Simple Instruments. With Original Wood Engravings. By E. Distin-Maddick, F.R.C.S., Edinburgh, Late Surgeon Royal Navy. London: Baillière, Tindall & Cox. 1887.

The Cremation of the Dead considered from an Æsthetic, Sanitary, Religious, Historical, Medico-Legal and Economic Standpoint. By Hugo Erichen, M.D., with an Introductory Note. By Sir T. Spencer Wells, Bart., F.R.S. Illustrated. Detroit: D. O. Haynes & Co. 1887.

The Physicians' Dose and Symptom Book, containing the Doses and Uses of all the Principal Articles of the Materia Medica and Official Preparations. Arranged in Alphabetical Order, etc. By Joseph H. Wythe, M.D. Sixth Edition. Completely rewritten and enlarged. Philadelphia: P. Blakiston, Son & Co. 1887.

Die Allgemeine Pathologie oder Die Lehre von den Ursachen und dem Wesen der Krankheitsprocesse von Prof. Dr. Edwin Klebs. Erster Theil. Die Krankheits-Ursachen. Allgemeine Pathologische Physiologie. Mit 66 Theilweise Farbigen Abbildungen im Text und 8 Farbatfeln. Jena: Verlag von Gustav Fischer. 1887.

The Vest-Pocket Anatomist (founded upon Gray). By C. Henri Leonard, A.M., M.D., Professor of the Medical and Surgical Diseases of Women in the Detroit College of Medicine. Thirteenth Revised Edition, Enlarged by Sections on Anatomical Triangles and Spaces, Hernia, Gynecological Anatomy and Dissection Hints. Detroit: The Illustrated Medical Journal Co. 1887.

A Treatise on Diphtheria, Historically and Practically Considered, including Croup, Tracheotomy, and Intubation. By A. Sanné, Docteur en Médecine. Ancien des Hôpitaux de Paris, etc. Translated, Annotated and the Surgical Anatomy added. Illustrated with a full-page colored lithograph and many wood engravings. By Henry Z. Gill, A.M., M.D., LL.D. St. Louis, Mo.: J. H. Chambers & Co. 1887.

A Practical Treatise on Diseases of the Eye. By Dr. Edouard Meyer, Prof. à l'Ecole Pratique de la Faculté de Médecine de Paris: Chevalier of the Legion of Honor, etc. Authorized Translation by Freeland Fergus, M.B., Assistant Surgeon, Glasgow Eye Infirmary. Colored Plates printed under the Direction of Dr. Richard Liebreich, M.R.C.S., Author of the Atlas of Ophthalmoscopy. With Colored Plates and 267 Engravings on Wood. Philadelphia: P. Blakiston, Son & Co. 1887.

## Original Articles.

## DIRECT FUNCTIONAL MURMURS AND OBSTRUCTIVE SAFETY-VALVE ACTION IN THE HEART.

BY JOHN GUTHRIE, M.D.,  
Passed Assistant Surgeon, United States Marine Hospital Service,  
Charleston, S.C.

In a report of several cases of malignant aortic aortitis published in the *Medical News* of November 14, 1885, I dwelt upon the significance of a mitral, direct (præsyntolic) murmur, which was proved by the autopsy, to have been unconnected with any lesion of the mitral orifice. The lesions found were those of an intense aortic regurgitation, and I concluded that the mitral direct murmur was due to the fact that, in default of the semi-lunar valves, the recoil of blood fell, during the diastole, upon the mitral valve, holding its leaflets tense and raised against the stream of blood coming from the auricle. The conditions were, therefore, recognized to be the same with those first described by Flint.<sup>1</sup> As far as I know, this is the first case recorded in support of the views held by Professor Flint. I regret deeply that we cannot have today the aid of his opinion to decide whether I am right or not in giving these views a much wider field of application. In the opinion of Professor Flint the existence of this direct functional mitral murmur was limited to a very small number of cases of aortic regurgitation; and indeed this limitation was held up as an argument against his views by Dr. Balfour, of Edinburgh. This observer claimed that Flint's murmur ought to be heard in all cases of aortic regurgitation, and that even in health the mitral cusps are floated up towards the auricle by the blood filling the ventricle in the normal process. He forgets, it seems to me, that in aortic regurgitation the leaflets are not floated upwards, but are actively driven against the auricular blood by the force of the general arterial tension. Now, it is one of the objects of this paper to show that the functional mitral murmur is by no means as rare as Dr. Flint believed it to be.

The diastolic murmur heard at the apex in aortic insufficiency is generally supposed to be a transmitted aortic murmur. Dr. Balthazar Foster claimed that this propagation is of diagnostic value as indicating a lesion of the posterior (mitral) aortic leaflet, because in such cases the regurgitant current trends towards the apex. I maintain that these propagated murmurs are in fact mitral obstructive murmurs, and that they are more apt to develop when the posterior aortic segment is affected, because in such cases the recurrent stream is brought to bear directly against the anterior leaflet of the mitral valve.

However this may be, the fact remains, I believe, that obstructive functional mitral murmurs are of frequent occurrence in aortic regurgitation. In three cases of this lesion that I have studied since the publication of my paper, the mitral murmur was readily detected. It is not difficult to separate the two murmurs. The diastolic fades perceptibly towards the end of the diastole, whilst, at the apex, a very distinct præsyntolic accentuation precedes the imperfectly developed first sound. This feebleness of the first sound is also a result of the præsyntolic tension of the mitral valves.

The following is an abstract from my notes of these cases:

<sup>1</sup> Treatise on Diseases of the Heart, second edition, p. 367.

CASE I. A. G., aged thirty-seven, colored. Physical signs: The superficial veins are prominent. The arterial pulsation is marked at the neck and the extremities. The apex beat is four-and-three-quarters inch below, and two to the left of the nipple. Palpation shows it to be a sustained impulse. During its slow collapse there is a smaller secondary impulse which corresponds with the recoil from a slight visible retraction which occurs at the moment of the systole.

Percussion denotes the existence of hypertrophy with dilatation. Auscultation. There is a loud double murmur heard at the second right interspace. The diastolic murmur which is louder and longer than the systolic, grows fainter towards the end of the diastole, so that there is a short silence between the ending of this murmur and the beginning of the systole. There is no aortic second sound. The murmur is loudly transmitted down the sternum, and can also be followed around the chest to the right axilla. At the second left interspace there is a distinct second sound. At the third left space near the sternum, the systolic murmur is lost, and a feeble first sound makes its appearance. At the third and fourth spaces, towards the apex, the feeble first sound disappears and a faint systolic murmur makes its appearance. The systolic and the diastolic murmurs can be followed around to the left anterior axillary line. At the apex the diastolic murmur is still the louder of the two, and is characterized by a lower pitch and a præsyntolic accentuation. The latter feature is recognizable as far as the left anterior axillary line. The diastolic and præsyntolic murmurs are intensified by exertion, whilst the first sound grows fainter and the mitral systolic murmur disappears. The effects of exertion, and the secondary apex beat should be noted as confirmatory of the views here maintained.

CASE II. D. S., aged thirty-three. Presents himself for treatment for acute dyspnea. He is free from all symptoms of cardiac distress. Inspection shows well-marked cervical and infra-clavicular pulsation. There is no distinct apex beat, but a slight systolic tremor about the nipple. The apex beat is found by palpation to be indistinct, and situated behind the sixth rib in the line of the nipple. Percussion proves the existence of hypertrophy and dilatation of the heart. Auscultation. Diastolic murmur at the aortic cartilage and over the sternum, down to the xiphoid cartilage. The murmur commences with a booming second sound which is equally distinct at the pulmonary and aortic regions. The first sound is very weak and is accompanied at the base, with a short pulmonary artery murmur. Over the body of the heart, and as far as a point two inches beyond the apex, the diastolic murmur becomes higher pitched and presents a distinct præsyntolic accentuation.

CASE III. H. A., aged fifty-eight. The physical signs in this case pointed to an enormous hypertrophy and dilatation of the heart, with dilatation of the arch, and obstructive and regurgitant lesion of the aortic valves. The double aortic murmur was sawing in quality, and could be heard all over the sternum. At the fourth, fifth, and sixth interspaces along the left border of the heart, there was a low-pitched, rumbling murmur, which was recognized by all those who examined the case as distinctly præsyntolic in time.

Post-mortem. The heart weighed twenty-one and one-half ounces. The aorta was dilated. The aortic valves were short and thickened, especially about the

edges. The intercoronary segment presented a button-hole slit, with thick, hard edges, the result of sclerotic changes around a congenital fenestration. The mitral leaflets were opaque, large, and slightly thickened, but evidently competent, non-adherent, and smooth. The mitral orifice admitted the introduction of three fingers. The right heart was much smaller than the left, and its valves were healthy.

There was, in the same ward of the City Hospital, an Italian, thirty-nine years old, with a loud, aortic, regurgitant murmur. Marked cyanosis and intense dyspnoea were prominent features of this case. The heart was moderately enlarged. The pulse was small and irregular. There was a loud, presystolic, churning murmur, circumscribed to the region of the apex. These features were contrasted with the somewhat diffuse character of the murmur heard in the previous case, and a diagnosis of organic mitral stenosis was made. Both the mitral and the aortic lesions were found at the autopsy.

It will be readily admitted that a mitral stenosis, whether organic or dynamic, may increase the obstacles to the circulation. But this must not be considered as invariably deleterious. The safety of an over-distended ventricle must occasionally depend upon this check to the inflow of blood from the auricle. I have observed elsewhere that it may be said of this safety-valve action, as of many other compensatory modifications of the heart's action, "that there is no step tending to cardiac impotency which may not be, at some time, or within certain limits, compensatory and salutary."

But the existence of an obstructive safety-valve action in the heart will be more readily admitted in connection with the pulmonary artery. It is not, however, my intention to dwell much upon this problem, which must be of very difficult solution. I shall pass on to the consideration of some murmurs heard in the pulmonary region, principally with the object of calling attention to their great frequency, and of presenting for discussion the subject of their causation.

Pulmonary systolic murmurs are far more frequent than all other cardiac murmurs put together. I have noted the presence or absence of this murmur in one hundred consecutive individuals. This group consisted of all the patients in my wards at the Charleston City Hospital and in the United States Marine Hospital, together with the applicants to the out-patient department of the Marine Hospital Service. Among the last, besides the ordinary dispensary cases, were included a number of healthy individuals, who applied for a certificate of fitness for sea-duty. Now, I found that sixty-two out of the hundred individuals presented a systolic, pulmonary artery murmur proper, either during tranquil respiration, or during respiratory movements especially designed to produce changes of the blood-pressure in the pulmonary arteries. If account is taken, not only of the pulmonary artery murmurs proper, but also of all the peculiar bruits of cardio-pulmonary rhythm heard about this region, the proportion becomes still greater.

The region of the pulmonary artery has been called the region of romance, says Balfour, "because of the various interpretations which have been given to the murmurs having their position of greatest intensity in that situation." These various interpretations, however, are necessary to account for the variety of murmurs heard in this locality. The anatomical reasons

for the frequency of murmurs in this region are: the proximity of the pulmonary artery to the surface; the thinness of the walls of the bloodvessel; the nature of its surroundings; and finally, and most important of all, the proximity of the main trunk to the capillary distribution. It is particularly this last factor that I propose to discuss, and I shall consider it first in the healthy subject.

I have found that a systolic pulmonary murmur can be developed in the majority of healthy individuals, provided we exclude those who possess very thick chest-walls, and those who are not intelligent enough to modify their manner of breathing, according to directions, during the examination; and I further hold that the said murmur is generally a dynamic, obstructive, valvular murmur. It is produced by the action of changes of blood-pressure in the artery upon the play of the semilunar valves. After reaching a certain degree of pressure, the blood in the pulmonary artery evidently must commence to impede the opening of the semilunar valves. The resultant of the two forces, one propelling and the other impeding the onward flow, must be a slanting position of the valves, and, consequently, a narrowing of the orifice, and the production of a sonorous vein or whirl.

The fact that these obstructive dynamic murmurs are much less frequently developed at the aortic orifice, I consider as confirmatory evidence of the views just expressed. If we take into account the greater power of the left, as compared with the right ventricle, and the wide distribution of the systemic circulation, it will be apparent that the aortic semilunar valves cannot be influenced by changes of systemic arterial tension with the same facility as the pulmonary valves are influenced by changes in the pulmonary circulation. There are, however, cases in which an increase of the general arterial tension is expressed, not alone by the accentuation of the second aortic sound, but also by an aortic systolic murmur. I have heard such a murmur in incipient atheroma and Bright's disease, where there was no marked anæmia; and probably all of us have seen cases in which a post-mortem examination failed to confirm the diagnosis of aortic obstruction made during life.

Returning now to the pulmonary artery murmur, as it is heard during ordinary breathing in the healthy subject, I have to say that it is almost exclusively circumscribed to the expiratory act. I hear at once the objection that it is simply a pressure-murmur resulting from the uncovering of the anterior surface of the heart by the receding lung; but this argument can be easily disposed of, for the murmur is loudest, not at the end, but at the beginning of expiration. It is loudest at the moment in which the change from expansion to contraction of the chest sends a wave of arterial pulmonary pressure back against the valves of the pulmonary artery: in fact, in many cases, the murmur is heard only at this moment; namely, with the first beat that occurs during the expiration. It is at this moment (when the blood is retarded in the right heart and in the large veins, just after the beginning of expiration) that the fall of the respiratory curve of the systemic arterial tension commences.

In order further to develop this murmur, and to show the influence upon it of disturbances of the pulmonary circulation, it is only necessary to arrest the respiration. By so doing, the murmur is often developed when it cannot be found during tranquil breath-

ing. It is better to stop breathing during expiration, and especially at the end of normal expiration. A full expiration makes the murmur louder still, but then it sometimes becomes higher pitched and harsher, suggesting the possibility of pressure upon the artery by the stethoscope, or by the heart itself (Quincke's murmur). At the end of inspiration, it is much more difficult to develop the murmur, for several reasons: First, because it requires a longer arrest of the respiration at this stage to produce engorgement of the main trunk, the capillaries being then in a state of dilatation; second, because a prolonged inspiratory effort is soon accompanied by a noisy hum of the intercostal muscles, which very much obscures all other sounds; and finally, because the interposition of the anterior border of the lung interferes with the transmission of any murmur that may be present. Even against these odds, the murmur is frequently heard in inspiration, if the arrest of breathing is pushed long enough.

The most frequent form of this murmur, as heard in ordinary breathing, consists of a soft, short, systolic bruit, of medium pitch, heard with one or two beats during the expiration. It is often detected only during some excitement of the circulation, as at the beginning of an examination, or when the patient stands.

It is very interesting to watch the changes that may be wrought upon the pulmonary second sound by a prolonged arrest of respiration: first, there will be an accentuation of the sound, then a reduplication, then a murmur, and finally both the murmur and sound will become indistinct. Thus indicating the several stages of intensity of the pulmonary obstruction.

Now, in pathological conditions these different changes may be found as evidences of the pathological alterations, for instance, in mitral and aortic lesions, tuberculosis of the lung, fibroid phthisis, emphysema, asthma, pleurisy, pneumonia, embolism; in all of which conditions the valvular murmur is frequently encountered as a manifestation of the obstruction in the pulmonary circulation. A very significant example is found in a reported case of pulmonary embolism, in which the sudden closing of one of the large pulmonary branches was immediately followed by the development of a systolic murmur in the main trunk.

It is not rare, however, to meet in some of these lung lesions with other species of murmurs. One of these, first described by Quincke, is produced by a retraction of the lung, which causes the pulmonary artery to be pressed by the heart against the sternum during the systole. I have occasionally heard this murmur in cases of tubercular infiltration and adhesions of the left upper lobe; but it must be admitted that the evidences of retraction of the lung are very slight in some of the autopsies of cases published in support of this view. When cases of pregnancy and of pneumonia, are made to do service for this theory, under the supposition that the imperfect pulmonary expansion present in such conditions, must cause an uncovering of the pulmonary artery, I am so far from being convinced that I hold to exactly the opposite opinion, and it is this: That in many cases of collapse or disuse of some portions of the lung, such as we find in pleuritic adhesions, extensive bronchitis, and, above all, in phthisis, there is a compensatory activity of other portions of the lung which may include those that lie near the left border of the heart. As we speak of superior costal and of diaphragmatic

breathing, we may speak, in the present case, of mediastinal breathing. The puerile respiration which is produced in these portions of the lung is interrupted by the cardiac movement simulating thereby a pulmonary artery murmur. It is heard generally with the inspiration, disappears with the arrest of breathing, and covers a broader area than the murmurs of the pulmonary artery proper. It is further a very short, high-pitched sound, which appears to originate very close to the ear, and is frequently mistaken with exo-pericardial friction sounds. A murmur of the same nature is quite common in children and in persons with narrow chests.

Some murmurs heard in the pulmonary region have been supposed by Naunyn and others, to be mitral regurgitant murmurs propagated to the surface by the appendage of the dilated left auricle. I believe that the arguments advanced by Flint<sup>2</sup> against a general acceptance of these views are incontestable. The murmur heard over the pulmonary artery in mitral insufficiency is, as I have endeavored to demonstrate, an obstructive valvular murmur, and it belongs with the accentuated second sound and other evidences of obstruction of the pulmonary circulation. The auricular murmur of Naunyn is, in my experience, exceptional. I have recognized it when the following signs were present: auricular dilatation, a mitral regurgitant apex murmur, and a long systolic murmur of low pitch, having its point of greatest intensity to the left of the pulmonary artery. If influenced by respiration at all, I found the murmur to be louder during inspiration.

It will be readily seen that in all these conditions there is more or less obstruction to the pulmonary circulation, and the presence or absence of the pulmonary valve murmur will depend solely upon the different degrees of power of the right ventricle to overcome the obstruction.

Now, are we not justified in assuming that there is a safety-valve action in this attitude of the pulmonary valves? A safety-valve action, which, together with the leakage in the dilated tricuspid orifice would tend to prevent engorgement of the lung by retarding the blood in the systemic veins where, for a time at least, it is less likely to do harm? This is certainly a difficult problem in mechanics; but I am inclined to think that the form of the valvular sinuses must give the artery, under conditions of pressure, a relative advantage in resisting the propelling force of the right ventricle.

There is still another murmur-like sound mentioned by Gerhardt, that may be heard in this most interesting region. It is commonly met with in excited conditions of the circulation, and is produced as follows: The thud of the cardiac systole is often of the same tone or consonant with the respiratory murmur, the latter thereby receiving a rhythmical intensification from the former, and giving rise to a sound which simulates very closely the murmurs of the artery proper. These murmurs by consonance are generally heard during inspiration, and they, of course, cease with the arrest of respiration. They can also be made to disappear by modifying the tone of the respiratory murmur, which can be done by inducing changes in the laryngeal element of that murmur.

Whatever tendency an anemic state of the blood may have to further the production of sonorous veins,

<sup>2</sup> American Journal of the Medical Sciences, January, 1886.

it must be considered operative also, in the conditions that I have attempted to describe in this paper. But aside from the fact that the influence of the changes of the blood is questionable, I think that there is evidence enough to show that the murmurs of anemia find a sufficient explanation in disturbances of the valvular apparatus.

The fact that some of the cases included in my series of pulmonary obstructive murmur were cases of anemia, does not invalidate the interpretation I have given of them. A considerable proportion of the anemic subjects who present a pulmonary artery murmur will be found to have also a mitral regurgitant murmur. The fact that an obstructive pulmonary murmur, or an accentuated pulmonary second sound is found in such cases is evidence enough to show that the mitral systolic murmur is not simply a ventricular murmur or a modification of the first sound, but is a manifestation of actual bicuspid insufficiency. Functional, mitral and tricuspid insufficiencies are as a matter of fact quite common in anemia, being simply the result of ventricular contraction with a diminished volume of blood. The pulmonary murmur accompanying this insufficiency must be valvular obstructive. The views of Naunyn, already discussed in this paper, in connection with organic mitral murmurs, will be found even less applicable in anemia. For if the transmitted murmur is often absent when we have distinct evidences of auricular dilatation, why should it be present at all when, as in anemia, there is no evidence whatever of such a dilatation?

There is another mechanism by which murmurs are produced, in anemia, throughout the vascular system. We have in anemia a reduction of the volume of blood. The diminished calibre of the circulatory channels without lessening of the stream velocity gives rise to the formation of sonorous whirrs, because the valves require a certain amount of expansion of the vessels in order to apply themselves smoothly to their walls, without giving rise to some obstruction. The normal rhythm of these murmurs shows that they are intensified during the partial collapse of the jugulars; and I have noted in two cases the complete disappearance of the cervical hum, in anemic females, during the general vascular engorgement that is noticeable sometimes before menstruation.

I hold therefore with Duchek that venous hums, and basic murmurs also, are of valvular origin, not as he believed, that the valves themselves are the starting point of sonorous vibrations, but that they act as obstacles to the circulation, and producers of sonorous whirrs.

The valvular theory of venous hums received a decided check in the fact that the murmur was found in cases where the jugular veins proved to be valve-less. But I have no doubt that in such cases the murmur is due to regurgitation into the jugulars. I occasionally see a young sailor who has but slight anemia and who presents on the right side the loudest jugular hum that I have ever heard. It differs from the ordinary anemic murmur in the fact that it grows feebler and may even disappear during inspiration. It is further distinguishable as a murmur, not of diastolic but of pre-systolic intensification (cardiac time). It is loudest, therefore, at the moment of the auricular systole, corresponding with the negative pulse of the veins. I have concluded that there must be in this case some defect of the jugular valves.

## THE TREATMENT OF PHTHISIS BY INHALATION OF ANTISEPTICS THROUGH COMPRESSED AIR-VAPOR. REPORT OF EIGHT CASES.

BY EDWARD O. OTIS, M.D.

At the present time, something more is being attempted in the treatment of phthisis—I do not include climatic treatment—than the old-time opium, cod-liver oil, and lies, accompanied, on the part of the physician, with skepticism and consequent lack of interest, and on the part of the patient, with hopelessness or self-deception as to the final result.

The new methods, first of all, have given the physician a deeper interest, or *some* interest, in his consumptive cases, and more eagerness and hope in their management. Without some ray of hope in the prognosis, the doctor is of little good to his patient, and the visits of a cheery friend will probably produce better results, or, at least, are more to be desired.

The new methods are those of pneumatic differentiation with the cabinet; compressed air-vapor, with antiseptics; gaseous enemata; direct injections of antiseptics into lung cavities, as practised by Dr. White, of New York; and, in some few cases, incision into a lung-abscess and drainage.

During the winter, I have treated eight cases of phthisis with compressed air-vapor and antiseptics at the out-patient department of the Carney Hospital, and although so few to report, still they may afford some reflection as to this method of treatment. The instrument used was one manufactured by Messrs. Codman and Shurtleff, and kindly presented to the hospital.

The inhalations were given every day, or as often as the patients would come, and for about ten minutes at a time. The patients were under treatment from a few weeks to two or three months. Only two formulae were used, those first suggested, I think, by Dr. Evans. They are as follows:

No. 1.	R	Carbolic Acid . . . . .	3 iss-5 ill.
		Borax . . . . .	5 ill.
		Glycerine . . . . .	3 ss.
		Aque distill. ad . . . . .	3 iv.
	M.	Filter.	
No. 2.	R	Co. Tinct. Iodine . . . . .	m 7.
		Tinct. Conium . . . . .	m 15.
		Glycerine . . . . .	3 iv.
		Aque ad. . . . .	3 iv.
	M.		

The patients were taught to take full, deep inspirations, and told to practice this at home and in fresh air. General hygienic rules of living were given, and in nearly all cases, the compound syrup of the hypophites was administered.

CASE I. L. M., thirty-five years, widow. Husband died of phthisis; no family history of tubercular trouble. Has had cough in the morning, only, for four years. Muco-purulent expectoration; loss of strength; shortness of breath.

Physical examination: Dulness of the summit of the chest on the left side, with subcrepitant râles. Tubular respiration in a circumscribed spot at about the third rib. Roughened respiration, with subcrepitant râles at the summit of the right side. A few moist râles at the left base. Weight, 99 pounds.

She was under treatment between two and three months, but not every day. Her weight increased to 101 pounds, and she said she felt stronger and could breathe better. The physical examination, however, indicated no change.

CASE II. J. H., thirty-six years, teamster. Family history not known. Symptoms of pulmonary trouble developed after exposure. Hemoptysis once. Mucopurulent expectoration; dyspnea; loss of strength, flesh, and appetite. Night-sweats at times. Bacilli found in sputa.

Physical examination: Dulness, bronchophony, and moist râles at the summit of the chest, on the right side. Moist râles over the left chest, with dulness. Coarse, dry râles over left front. Weight, 130 pounds.

He was only under treatment about a month, and at the end of that time had gained eight pounds. His appetite had improved, and cough was better. The physical examination was the same as at the beginning.

CASE III. K. C., domestic, about twenty-two years. Family history good. Has not been well for two or three years. Cough for a few weeks only. Hemoptysis; night-sweats; loss of strength and appetite. Mucous expectoration; scanty menstruation.

Physical examination: On the right front, above the level of the third rib, a few fine, moist râles and some squeaks. Examination otherwise negative. Weight, 125 pounds. This patient was very faithful in her attendance, and at the end of about two months the râles had disappeared, and no signs of trouble anywhere were discovered. Her appetite had improved, and she had gained two-and-a-half pounds. There was still, however, a little cough.

CASE IV. J. G., a young man of twenty years. No family history of tubercular trouble. Well, up to a year ago. Hemoptysis; night-sweats; dyspnea; loss of appetite and cough.

Physical examination: Dulness, tubular breathing, bronchophony, and moist râles at the summit of the chest, on the right side. Moist râles and harsh respiration over the left front. He had constant hemoptysis, rapidly failed, and died in nineteen days after he first came to the hospital.

CASE V. N. H., a frail, delicate child of eleven years. Phthisical family history. Hemoptysis; night-sweats; loss of appetite.

Physical examination: Dulness; tubular breathing; moist and dry râles at the upper part of the chest, on the left side. Harsh respiration and a few dry râles on the right side. Weight, 47½ pounds. She was under treatment about a month, and gained a pound-and-a-half. She was then sent to the Children's Hospital, where she could have better care than it was possible for her to have at home; and besides, the risk was great in coming to the hospital during the inclement winter weather.

CASE VI. A. M., a young woman of twenty years, of good family antecedents. The trouble is of about a year's standing. Cough; purulent expectoration; chills; occasional night-sweats; dyspnea.

Physical examination: Dulness over the front of the chest, most marked on the left. Dry râles on the left front; rough respiration on the upper right front, and a few moist râles over the corresponding portion of the back. Weight, 119 pounds.

After about a month's treatment, there seemed to be some slight improvement. No chills or night-sweats.

CASE VII. C. L., a young woman of eighteen years. Mother died of phthisis. Her trouble began about two years ago. Hemoptysis; night-sweats; temperature 101.5°, pulse 116.

Physical examination: At the summit of the chest, on the left side, dulness and abundant moist râles.

Weight, 120 pounds. No improvement followed the use of the inhalations. The acute symptoms persisted, and at the last report her weight had fallen to 115 pounds. Antipyrine was given for the fever.

CASE VIII. E. W., a man of fifty-two years, with a good family history. His present trouble began about six months ago, when he began to lose flesh and strength. Now has cough, mucopurulent expectoration, occasional night-sweats.

Physical examination: Lack of resonance at the left apex, with abundant moist râles. Weight, 130 pounds.

About a month later, his weight had increased to 137½ pounds, and there were but a few moist râles at the left apex. His appearance was much improved.

Several other patients began with the treatment, but did not follow it up long enough to make it worth while to report them.

So far as one can draw any conclusions from these few cases, they would be these: in advanced cases of phthisis there was no essential improvement, but sometimes an amelioration of some of the symptoms; in beginning cases, there seemed to be some real improvement.

From the necessities of out-patient practice, the inhalations could be given but once a day, and then for too short a time. I am of the opinion that in order to obtain the best results from this method of treatment, the inhalations should be given two or three times a day, and from fifteen to twenty minutes at a time.

Certain it is that the patient learns to breathe more properly, and to take deeper and fuller inspirations, which, in itself is of no small importance. Indeed, I think much pains should be taken in teaching the consumptive how to expand his lungs fully—that which many well people do not understand. Light, free, hand-gymnastics, such as is taught in the gymnasiums now, are calculated to expand the chest, seem to me to be an important auxiliary to other treatment. It is a good thing to place the patient against the wall, straighten up the shoulders, and to teach them to keep them thrown back in walking, which enables them to take fuller and deeper inspirations. Walking with the palms of the hands turned out, as one sees the cadets do at West Point, is also a capital device for keeping the shoulders back.

If this form of treatment is likely to be used in any case for a long time, as it should be if any pronounced results are to be obtained, it would be better to have a large reservoir for the compressed air; the constant pumping is tiresome and annoying.

As to the antiseptics used, I suspect that it does not make so much difference what they are. Of the two used in these cases, I could not see much difference in the results; the carbolic acid one seemed to be more irritating than the iodine. This method would seem to offer enough to warrant further trial.

—The recent serious and nearly fatal illness of Prof. Billroth, from which he is now, however, happily convalescent, consisted at first in a sharp attack of bronchitis which confined him to his bed. Then acute pneumonia supervened. These conditions, combined with fatty degeneration of the heart, brought about a state of alarming prostration. He appears to have derived most benefit from inhalations of pure oxygen, which were prepared for him every day.

## Clinical Memorandum.

### A CASE OF BERI-BERI.

BY H. J. POMROY, M.D., OF BROOKLYN, N. Y.

As the attention of the readers of the JOURNAL has been called to cases of beri-beri quite frequently of late, perhaps the following history of a case might prove of interest:

D. K. P., an American, fifty-three years of age, has followed the sea since boyhood. While in command of a barque, he visited many foreign ports, and, consequently, many different climates. During the last few years he has resided, and has been engaged in mercantile pursuits, in the city of Para, Brazil. He had always enjoyed good health until a few months before his departure from Para, in the spring of 1885. His present illness began with swelling of the feet, gradually extending upwards to the thigh, scrotum, and abdomen. As the swelling increased, his appetite and strength diminished. He had no pain. Slight numbness in the lower extremities, especially below the knees. Finally, dyspnea, slight cough, with scanty expectoration. No dimness of vision or nausea. Bowels constipated. From the first, the patient recognized the disease as beri-beri. Having seen and heard of persons similarly affected, and being aware of the fatality of the cases which had reached the stage of effusion into the thoracic and abdominal cavities, he decided to take the only known measure of relief, namely, change of climate. When only a few days out from Para, bound to New York, he experienced great relief from dyspnea, and with an increase in the daily amount of urine, his oedema subsided. I did not see him until two weeks after his arrival in New York. There was no apparent anemia. He was, on the contrary, decidedly plethoric. There was no ascites at this time. The heart, lungs, and liver were normal. The specific gravity of urine was 1015. The amount in twenty-four hours, 1800 cc. Normal color and reaction; no albumen. Microscopical examination revealed nothing abnormal. There was oedema of the legs below the knees, the skin pitting on pressure. The patella reflexes were much diminished. No tenderness anywhere. Muscles, to the touch, appeared normal, and their electrical reaction was normal.

The patient sailed for Liverpool six weeks after his arrival in New York, to all appearances well. He had no medicinal treatment after leaving Para. Subsequently, on returning to Para, three months later, his friends expressed great surprise on seeing him alive and well. The patient says that in all probability, following the usual course in cases of beri-beri, he will have a return of the disease, and will be obliged to leave the country permanently. In his last letter, received some two months since, he stated that he was still in good health.

— According to the *British Medical Journal*, on June 9th, Mr. Victor Horsley removed a tumor in the dorsal region of the spinal cord from a patient under the care of Dr. Percy Kidd. The patient had been seen by Dr. Gowers, who diagnosed a localised neoplasm, and suggested operative interference. The tumor measured about one inch and a quarter by half an inch. The wound is now practically healed.

## Reports of Societies.

### MASSACHUSETTS MEDICAL SOCIETY.

#### COUNCILLORS' MEETING.

The annual meeting of the Council was held at the Medical Library, Boston, on the evening of Tuesday, June 7, 1887. One hundred and thirteen Councillors were present. The meeting was called to order by PRESIDENT GAGE, at seven o'clock.

The Secretary announced the names of ninety-seven Fellows who had been admitted during the year, and of twenty-seven who had died.

#### FINANCES.

The Treasurer's report showed the year's receipts—including a balance of \$1,767.37 from the previous year's accounts—to be \$10,516.21. The disbursements amounted to \$8,201.00, leaving a balance of \$2,315.21. The invested funds of the Society amount, as in the previous year, to \$32,420.17. The Society now bears upon its catalogue the names of 1,651 members.

The report further stated that assessment dues to the amount of \$55.00 have been remitted by vote of the Councillors, upon the recommendation of the Committee on Membership and Finances. Twelve members of the Society have lost their membership by removal from the State, and neglect of their assessment obligations. Since the last annual meeting the names of four Fellows have been dropped from the roll, with the approval of the Council, in accordance with the By-Laws, for five years' delinquency in assessments.

In accordance with the recommendation of the same Committee on Membership and Finances, reporting through Dr. Minot, it was voted that \$1,000.00 of the balance remaining in the treasury be distributed among the District Societies.

On recommendation of the Committee, dues were remitted to several Fellows, others were dropped from the roll for non-payment of dues, others were allowed to resign, and still others were permitted to become retired members.

DR. SHATTUCK reported for the Committee on Publications, and reminded the Councillors that at the Annual Meeting of the Society in 1888, the name of the successful candidate for the Shattuck prize of \$1,000.00, if such there be, would be announced.

DR. WHITE read the report of the Committee on the By-Laws of the District Societies, and the Librarian, Dr. Brigham, presented his annual report.

#### ELECTION OF OFFICERS.

The Committee on Nominations reported the following list of candidates for the offices of the Society for the ensuing year, and the same were elected by ballot: Dr. Thomas H. Gage, of Worcester, President; Dr. William G. Breck, of Springfield, Vice-President; Dr. Frank W. Draper, of Boston, Treasurer; Dr. Charles W. Swan, of Boston, Corresponding Secretary; Dr. Francis W. Goss, of Roxbury, Recording Secretary; Dr. Edwin H. Brigham, of Boston, Librarian.

On the announcement of the result of the ballot, the President thanked the Councillors for the renewed expression of their confidence and esteem.

## THE NEXT MEETING.

It was voted that the next annual meeting of the Society be held in Boston, on the second Wednesday of June, 1888.

Dr. B. Joy Jeffries, of Boston was chosen Orator and Dr. Charles B. Porter, of Boston, Anniversary Chairman for that meeting.

## APPOINTMENT OF COMMITTEES.

The President nominated, and the following were appointed to constitute the standing committee:

Of Arrangements.—J. B. Swift, H. C. Ernst, W. W. Gannett, O. K. Newell, V. Y. Bowditch, F. B. Harrington.

On Publications.—G. C. Shattuck, R. M. Hodges, B. E. Cotting.

On Membership and Finances.—F. Minot, B. S. Shaw, D. W. Cheever, J. Stedman, E. G. Cutler.

To Procure Scientific Papers.—C. W. Swan, G. S. Stebbins, J. R. Chadwick, R. H. Fitz, H. P. Walcott.

On Ethics and Discipline.—G. J. Townsend, G. E. Francis, A. H. Johnson, C. Howe, F. C. Shattuck.

On Medical Diplomas.—W. L. Richardson, A. H. Cowdrey, E. J. Forster.

## CONNECTICUT STATE MEDICAL SOCIETY.

The ninety-sixth annual convention of the Connecticut Medical Society was held May 25th and 26th, at Hartford, in the County Court House. This place of assembling (Superior Court Room) was the same as that of two years ago, when it gave universal satisfaction by reason of its airiness and lightness, and freedom from disturbing noises.

The first gathering, at 3 P. M., was the meeting of the Fellows, or Executive Council of the Society, and at least forty out of the full number of fifty-three were present. The exercises opened with the President's address to the Fellows, by Dr. T. M. Hills, of Williamantic, which was very brief. The principal recommendation was that the discussion of the "Proposed New Charter Question" should be considered closed, having already occupied the greater part of the time of one special and two regular meetings, and having been voted down at the last annual meeting by the decisive vote of 25 to 8. He noted the similarity between the organizations of the Connecticut and the Massachusetts Medical Societies, and thought the success of the Massachusetts Society showed that the organization was not at fault for any lack of interest. He also advised that a standing committee be appointed to watch the legislative enactments that, from time to time, might be brought before the State Legislature, which had a bearing on the practice of medicine, or upon the interests of the medical profession, and report to the Society such proposed enactments, with suggestions for action on the part of the Society.

A committee of three was appointed to consider the suggestions of the President in his address, and report to the next convention.

Several resolutions were then read by the Secretary, which had been received from various county societies. Three counties desired that the subject of any change at all might be dropped, and time allowed for other matters. One desired some change, but did not express any preference, except to say that it would be desirable to conform as nearly as might be to the

form of the Massachusetts Medical Society. One wished an increased representation in the body of Fellows; namely, five for the first twenty-five members in the county society, and one for each additional twenty-five members, making more nearly a *pro rata* representation, such as exists in Massachusetts, and thus being in effect nearly what the preceding society asked for. One society wished a revision of the Charter, essentially as called for by the proposed new charter, which was voted down last year.

These resolutions were referred to the Committee on County resolves.

A committee appointed last year to confer with committees from the homoeopathic and eclectic societies, in reference to some practical action looking to the adoption of some such Act as that proposed by the American Medical Association to insure proper qualification among those practising medicine, then made a report that they had held conferences with committees from the other societies, and had drafted an Act, which was presented to the Legislature, but at so late a day in the session, that it was found impracticable to carry it through to final action, and it was laid over to the next session.

The Secretary laid before the meeting the circular of Dr. Dunglison, of the International Medical Congress Financial Committee, calling for pecuniary aid from the State medical societies. Subsequently, the Treasurer's report having shown that there was barely sufficient money in the treasury to pay the current expenses of the Society for the ensuing year, a committee was appointed, of one from each county, to solicit subscriptions in aid of the Congress.

The Committee on Honorary Members and Degrees recommended that Prof. J. C. Dalton be made an Honorary Member. Under the rule, this recommendation lays over, to be acted upon next year.

The Nominating Committee reported the following list of officers, who were all elected: President, Dr. Francis Bacon, New Haven; Vice-President, Dr. George L. Porter, Bridgeport; Treasurer, Dr. E. P. Swasey, New Britain; Secretary, Dr. S. B. St. John, Hartford.

The Committee on County Resolves reported, favoring no action in the matter of amending the Charter. The report was not accepted, and after considerable discussion, in which the question of increased representation was considered, it was voted to appoint a committee of two from each county to consider the question of amending the Charter, and report at the next convention, with the draft of an Act, if thought best to make any change. Thus the question which has kept the executive meetings in a ferment for three years is to be upon the carpet for another year, at least.

The Society adjourned, to meet in special session at 7.30 P. M., to listen to a paper on

## ULCERATION OF THE OS UTERI,

by DR. E. W. CUSHING, of Boston, who had been specially invited by the Society to address the convention. The paper was a very interesting one, and was listened to with marked attention. While free from any attempt to display great erudition, it was full of suggestions that the author was thoroughly at home in the literature of the subject, and the illustrations, many of which were microphotographs, made by Dr. Cushing, and Dr. Parker, of Lowell, who was present, and kindly assisted in

showing them by means of a stereopticon, showed that the recent theories regarding the part taken by the glands of the cervix in these so-called ulcerative processes have a substantial basis of fact. The micro-photographs showed that, in many cases where there seemed to be great loss of substance, the layer of cylindrical epithelium was still intact, and so long as this was the case, it was held that true ulceration had not taken place. In other instances this line of cylindrical epithelium was absent, as in the case of carcinomatous and tuberculous ulceration. The condition known as erosion is rather an active formation of glandular tissue.

In the discussion which followed, Dr. CARMALT said he considered Dr. Cushing's micro-photographs clearly demonstrated the transition of adenoma into carcinoma, and thereby confirmed the views he had held and taught for many years. It also demonstrated the correctness of the Thiersch and Waldeyer theory of the epithelial origin of carcinoma—a theory which is constantly receiving confirmation by investigations in various fields of surgery and pathology. It follows from this paper that, in operating, the incisions must be made deep enough to remove all the glandular new growth. The paper was further discussed by Drs. Storrs, Avery, and Ingalls.

The annual convention of the full Society assembled at 9.45. The Secretary's report showed eight deaths during the year, among them one of the ex-Presidents, Dr. Carleton, of Norwich, a Harvard graduate. Seven removals and eight resignations or expulsions were offset by new members, to the number of twenty-eight, leaving a net gain of five members, and a total membership of five hundred and five. The new members are in about equal proportions from Yale Medical School, University of New York, and College of Physicians and Surgeons of New York, Harvard sending only one.

Only one delegate reported from sister societies, Dr. TAYLOR, from New Jersey.

Dr. A. E. ABRAMS, of Collinsville, read a dissertation upon

#### THE TREATMENT OF DISEASES OF THE EAR BY THE GENERAL PRACTITIONER.

He dwelt at length upon the harm done in considering an earache or an otorrhea as of secondary importance, or as something for which very little could or need be done, and found, in the prevalence of this opinion, the reason for the existence of so much chronic ear disease as we are constantly meeting with. He urged the seriousness of even the simpler forms of children's ear troubles, and held that they should always be given close attention, while in those accompanying the exanthemata, the treatment should be even more carefully insisted upon. The use of leeches, hot water, and careful cleansing of the ear when discharge was present, was dwelt upon. The reader espoused the dry treatment method so far as applications go, though he advocated using the syringe for cleansing purposes. He found that his suppurative ear cases did better under the use of boracic acid than almost anything else.

Dr. CARMALT emphasized Dr. Abrams' remarks as to the importance of early attention, saying that physicians too often agreed with the parents that it was not necessary to pay much attention to a running ear.

Dr. ST. JOHN noted that a persistently running ear was not regarded without suspicion by the Life Insur-

ance Companies who viewed this matter from a business standpoint, and whose opinions were based on statistics from a large number of cases. They had discovered that a certain percentage upon their death-lists showed upon examining the detailed record that there was a history of persistent otorrhea, and the death was ascribed to meningitis, abscess of brain, or other head affection which might reasonably be joined to the ear trouble in the relation of cause and effect. He also, in speaking of the treatment, said that he could not get uniform success by using boracic acid or any other powder, and while he used boracic acid a great deal and regarded it as almost invaluable, yet he believed it applicable only to those cases in which a large opening existed in the membrana tympani through which the powder could easily make its way into the tympanic cavity. In a large class of cases in which the perforation was small, he had been much disappointed in its use, and notably in those obstinate cases in which the opening is in Schrapnell's membrane. In these cases he still relied on the use of thorough cleansing by the syringe, especially by the "middle ear syringe" and the use of astringent remedies.

The Committee on Matters of Professional Interests reported that they had sent a circular letter to many members, asking answers to various questions. The circular asked "the usual fees and mileage for medical attendance," "the fees for obstetrical cases, complicated and uncomplicated," and "proportion attended by unqualified midwives"; also the "proportion of death certificates returned by persons not graduates from recognized medical schools (regular homoeopathic and eclectic)"; medico-legal cases were also asked for. The questions in the circular were prompted by the introduction into the Legislature of the bill before referred to. The Report of the Committee says: The answers show

*First*, that visits throughout the State are 75 cents to \$3.00, mileage 25 cents to \$1.00. Office fee 50 cents to \$2.00. Obstetrical fee \$5.00 to \$25.00 for ordinary cases. In county towns with low fees, nearly all obstetric cases are attended by regular physicians. In cities with large fees unqualified midwives thrive and grow fat. In the cities they attend about one-third of the births. The committee suggested lowering the fee in cities so as to drive out the ignorant midwives. If this were not done, we should advocate schools for the better training of midwives.

The Report was accompanied by an account of three cases in which the ignorance of the midwife was undoubtedly the cause of the woman's death.

Dr. G. R. SHEPHERD, of Hartford, read a paper on

#### CLIMACTERIC GLYCOSURIA,

giving the histories of four cases he had noted, and adding an exhaustive review of the literature of the subject. He found these cases are not like ordinary glycosuria, in that there is not any marked thirst or emaciation. One case showed obstinate pruritus vulvar as the prominent symptom, which disappeared spontaneously, as did also the sugar in the urine three years later. The second and third cases were almost counterparts of this, and in all, the establishment of diabetic regimen had little or no effect upon the amount of sugar in the urine.

The fourth case complained chiefly of pruritus vulvar, and examination showed between the swollen labia a considerable deposit of whitish material, which the

microscope proved to be identical with sugar fungus, and a large amount of sugar was found in the urine. The special features in these cases were noted, as glycosuria appearing in women at or near the climacteric period, accompanied by but one symptom calculated to attract attention, namely, pruritus vulvar of chronic and obstinate form, the disease continuing several years without detriment to the general health, and subsiding spontaneously, apparently uninfluenced by treatment.

A paper on the

#### RELATIONS BETWEEN SCROFULA AND TUBERCULOSIS,

by DR. KENT, of Putnam, was an earnest attempt to establish some order in what is apt to be regarded as a chaotic subject, and though laying no claim to originality, it showed extensive and intelligent reading. His conclusions were (1) that manifestations of scrofula are commonly associated with tubercle, either fully formed or embryonic; (2) the form of tubercle met with in so-called scrofulous diseases is usually of elementary character; (3) scrofula, therefore, indicates a milder form or stage of tuberculosis, and the two processes are separated simply by degree.

In a paper on

#### NEW REMEDIES,

DR. RUSSELL dwelt upon antipyrine, thallin, kairin, antifebrin, paraldehyde, and cocaine. Antipyrine was specially recommended in typhoid fever, pneumonia, and tuberculosis. He thought it a "prompt, reliable and powerful antipyretic." Thallin is less known, and perhaps not so effective. Kairin is more likely to cause collapse. Antifebrin is four times as powerful as antipyrine, and deserves further trial. Paraldehyde produces in fifty m. doses quiet dreamless sleep, possibly preceded by a stage of excitement: it appears to be superior to chloral in nervous insomnia, especially in that from over-use of alcohol. It may be well given as enema with yolk of egg and infusion of marsh mallow, and should not be used hypodermically. In the discussion a case was given in which the insomnia resulting from withdrawal of morphine in an opium-eater, was overcome at once by paraldehyde.

The Society then adjourned to the annual dinner.

#### THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting May 5, 1887.

DR. N. M. SHAFFER read a paper, prepared by himself and DR. R. W. LOVETT, of Boston, on

#### THE ULTIMATE RESULTS OF THE MECHANICAL TREATMENT OF HIP-JOINT DISEASE; AN ANALYSIS OF FIFTY-ONE CASES OCCURRING IN THE SERVICE OF THE NEW YORK ORTHOPÆDIC DISPENSARY AND HOSPITAL.

All the cases were in dispensary patients, and all cases of excision were excluded. The difficulties met with in successfully carrying out a course of treatment among this class of patients in any chronic trouble, he said, were especially marked in the case of such affections as hip-joint disease, where the treatment was a matter of years, and also involved the use of mechanical apparatus. In order that satisfactory results could be obtained in such cases it was requisite that the dispensary should be fully equipped with suitable appli-

ances, and that the attending surgeons should have the co-operation of a competent and energetic out-door surgeon. The home-treatment entered largely into the result, and in a certain proportion of the cases, owing to the peculiar circumstances of the patient, hospital treatment would be necessary.

The results given in the paper were recorded by Dr. Lovett, and the following were among the points fixed upon as the bases of the investigation:

No case was considered which had not been treated exclusively in the service of the Orthopædic Dispensary.

No case was considered which had not been discharged cured.

No case was considered which had not been cured for at least four years.

No case was considered which had not been under treatment for at least two years.

All the cases which came under these exclusive conditions were included in the report. The period considered was the five years from 1877 to 1882, and during this period there were treated altogether 778 cases of hip-joint disease at the institution. Of these, 168 cases, or over 21 per cent. were discharged cured, 261 discharged relieved, 49 discharged for neglect of orders, and 6 discharged as incurable; while 64, or between 6 and 7 per cent. died. Of the deaths, 20 were due to tubercular meningitis, 5 to amyloid degeneration of the kidneys or other organs, and 3 to phthisis. It was the practice to discharge patients *experimentally* cured; watching the effect of leaving off the apparatus for a time. In some of these it was necessary to resume the mechanical treatment for a longer or shorter period before they could be discharged permanently cured.

The plan of treatment adopted in all cases was to apply the long Taylor splint, and instruct the parents or friends in its use. Unless the recumbent posture were required by the special circumstances of the case, the patient was allowed almost unlimited exercise in the open air, and once a week it was expected that the child should be brought to the dispensary for examination. The aims of the treatment were: (1) To overcome by mechanical means any existing deformity. (2) To protect the affected parts from traumatism. (3) To secure free out-door exercise. (4) To maintain that position of the limb in which, in case ankylosis should result, there might be the least amount of deformity.

No operations were performed, with the exception of occasionally evacuating an abscess, and little medication was resorted to. Much credit, Dr. Shaffer thought, was due to the efficient assistant surgeons of the institution for their faithful devotion to the cases. The long splint used was made without any joint at the knee. He thought the results would probably have been even better than they were if an intermediate apparatus had been employed, as was usually done in private cases; but on account of the additional expense involved, the institution was unable to provide this.

Of the fifty-one cases on which the paper was based, four were ascertained to have died. Two of the deaths were due to tubercular meningitis, and the other two to acute pneumonia; the latter patients having been in good health up to the time of the attack which carried them off. Of the remaining forty-seven, six had relapses. One of these patients remained well two

years, two, three years, two, four years, and one five years; and in one of these cases the relapse was due to a fall from a cart. In one of the cases excision of the hip had been performed, and the patient, at the end of a year, was still in bed. In the other five the treatment by traction had been resumed, and of those, two were cured a second time, two were now nearly well, and one was slowly improving.

Passing on to speak of the difference in the length of the two lower extremities. Dr. Shaffer said that the amount of shortening did not seem to depend on the presence or absence of abscesses; although there was a larger proportion of cases of shortening with abscess than of those without. The influence of age on the amount of shortening was quite marked; the greatest amount of shortening occurring in late cases, that is, when the patients were over ten years old when the trouble commenced. It was a fact worthy of note that the difference in the length of the limbs almost always increased slightly after the case had been discharged cured. As to the difference in the circumference of the two thighs, in the majority of instances it was between one and two inches; and when the result was most perfect this was never less than one inch. No relation was observed between the amount of shortening and that of atrophy. The atrophy of the calf was more marked than that of the thigh in after years. A study of these cases seemed to show beyond a doubt that the muscular growth of the limb received a shock from the occurrence of hip-joint disease from which it never afterwards fully recovered. The atrophy might doubtless have been diminished by massage and other appropriate treatment; but in dispensary practice it was not practicable to carry such a course of treatment out.

In nineteen of the cases recovery took place with ankylosis. Three of the patients had perfectly free motion in every direction. The presence or absence of abscess seemed to have little influence on motion. An investigation of these cases showed that the amount of motion, as a rule, grows less, instead of greater, as time goes on; and in no case did the motion increase after the discharge of the patient. A careful examination was made in regard to the presence of lateral curvature of the spine, and it was found that in only one out of forty cases was there anything at all approaching true rotary lateral curvature. In this case, however, the latter condition was not really present. It was found that after cure the limb on the diseased side does not grow as rapidly as the unaffected one, and Dr. Shaffer thought this was no doubt the reason why the difference between the length of the two limbs so often became greater as time went on. In case of ankylosis, adduction, rather than flexion, was the thing to be most avoided.

In conclusion, he stated that these cases showed that conservative methods of treatment gave better results than ex-section. Excluding the four cases which died and the six which relapsed, there was not a single individual among the patients who were incapacitated for pursuing a useful avocation.

Dr. Lovett stated that as a part of the work included in the present investigation, he had visited and examined three patients at their homes, and he had found that, taken altogether, they were an exceptionally healthy set of people. There were only four who were not in robust health. One of these was a boy, who was the only one of the number who used a

crutch or cane; and the other three were young women who, while anæmic and inclined to be delicate, presented no signs of tuberculosis. There were very few who wore high soles on the affected side; although quite a number had tried this for a time, but found that they could get along better without this device. As had been remarked, adduction was the unfortunate deformity resulting from hip-joint disease. It made the gait ungainly, gave rise to pain in the back, and rendered the practical shortening of the limb a good deal in excess of the actual bone shortening. Nearly half of all the cases complained of more or less pain in the affected limb during damp weather; but in not a single instance was there the slightest reason to suspect any return of the disease.

Dr. J. F. RIDLON said that by this paper the claim was substantiated that hip-joint cases could be successfully treated in dispensary practice. Having been for six years connected with the Orthopedic Dispensary, three of which were spent in the out-door department, he was very familiar with such cases as those described. It seemed to be assumed by Dr. Shaffer that all the cases were of tuberculous nature; but personally he believed that many cases which were supposed to be of strumous origin were in reality due to traumatism. He also thought that a considerable proportion were due to inherited syphilis. It therefore seemed reasonable that the causation of the trouble should modify the treatment adopted, to a considerable extent. In traumatic cases, where there was more or less dead bone present, he thought it was good surgery to cut down and remove it. If such cases were allowed to go on without operation, they were very apt to end fatally; while in instances of this kind where even a very large fragment of dead bone was removed, he had seen the patients make a perfect recovery. If a diagnosis of inherited syphilis were made, antisyphilitic treatment should be employed, in addition to the usual splint. He had, indeed, seen one or two syphilitic cases get well under antisyphilitic treatment, without the use of mechanical means at all. He was convinced that many cases which were supposed by orthopedic surgeons to be of tuberculous character were in reality syphilitic, and he knew of one case of this kind which was treated with simply a hip-splint for two years, when a syphilitic eruption appeared. As to whether there was any way of deciding whether a case was tuberculous or syphilitic, he thought, was a matter worthy of investigation; and it seemed to him that it was advisable to try the effect of internal remedies in addition to mechanical treatment.

Dr. S. KETCH said that he thought Dr. Ridlon was mistaken in the statement that it was assumed at the Orthopedic Dispensary that all cases, without exception, were of tuberculous origin. It was also a fact that quite a number of cases, in addition to mechanical appliances, were treated with such remedies as iron, cod-liver oil and the hypophosphites. His personal experience with the mechanical apparatus employed led him to consider that with it we had a most satisfactory method of treating hip-joint disease. Not only were good limbs secured, but also relief from suffering; and many of the cases were saved from the knife.

Dr. LEWIS A. SAYRE said that the conclusions of Dr. Shaffer corresponded to a great extent with the views which he had been teaching for the last thirty years. If proper mechanical treatment was carried out, the patient usually recovered. Whether there

was a predisposition to tuberculosis, syphilis or other dyscrasia or not, he had observed that in almost all cases an exciting cause, however trifling, had been required to develop the trouble in the hip-joint, this traumatic influence serving to fix the pathological process at this particular point. If any hereditary taint were present, of course a very slight injury was required for the development of the disease. With appropriate mechanical treatment and the use, in suitable cases, of such measures as blisters, leeches and the hot iron, a fair result could usually be obtained; and there were scores of his patients in this city and elsewhere who now had perfect motion in the limb. Many of these he had seen in consultation with such surgeons as Mott, Willard Parker, Van Buren and Hamilton; and the results were so successful that it would never be suspected that they had ever had hip-joint disease at all.

If we could succeed in arresting the disease, Dr. Sayre went on to say, mechanical treatment was all that was required. But in spite of suitable mechanical means and the internal use of cod-liver oil, bi-chloride of mercury, or other remedies that seemed to be indicated, there were a certain number of cases which, instead of improving as time went on, only kept growing worse. If, therefore, caries went on increasing, with long continued suppuration, which was liable to result in amyloid degeneration, then the knife was the proper thing to resort to. Instead of letting a case go on for eight years, as had been done in some of those reported in the paper, with the health becoming all the time more and more impaired, he thought excision was infinitely preferable. So far as results were concerned, these would be incomparably better than in serious cases of this kind in which it was not resorted to. In this connection he referred to two patients in whom he had performed excision, one of whom afterwards became a champion foot-ball player and college athlete, while the other had earned a pair of silver skates for his agility on the ice. Yet these are cases in which he believed death would have resulted if he had not performed the operation.

For a number of years Dr. Sayre said he had only been allowed to do excisions in those who were already condemned to die, so strong was professional opinion against the procedure; and, consequently, his statistics were not as favorable as they would have been if he could have selected his cases. A certain number of cases had been referred to this evening as incurable; but he thought it was a great mistake not to give them the chance which excision afforded. Of the seventy cases in which he had performed the operation, many were of this apparently hopeless character. As regards the condition of the spine in the subjects of hip-joint disease, while there might not be present true rotary lateral curvature, it was undoubtedly true that there was more or less lateral distortion in many of the cases.

Dr. V. P. GIBNEY considered the statistics presented in the paper a valuable addition to surgical literature, and particularly as regards the questions of ultimate motion and ultimate atrophy. It would seem from them that the common impression that motion increases, and atrophy diminishes as time goes on was an erroneous one. These were very important points, and they would serve to help us in our prognosis. Personally he had gained increasing confidence in the value of mechanical treatment. With it there were

no exacerbations, there was immunity from suffering, and the children grew hearty and robust.

Dr. A. B. JUDSON said that the limb would take the position that was most convenient to the patient. Adduction was particularly undesirable, and he thought that patients should be drilled so as to spend as much time as possible with their weight on the affected limb.

Dr. L. H. SAYRE said that as long as the patient showed improvement, however slow, mechanical treatment should be persevered in; but when, instead of improving, he steadily lost ground, he believed it was the best plan to remove the dead bone at once. He did not believe, however, in early excisions, and did not think the results thus obtained would at all compare with those of mechanical treatment.

Dr. SHAFER, in closing the discussion, stated that he did not wish to be at all dogmatic in his views in regard to tuberculosis and syphilis. The only way that he could distinguish between the two was by the test of treatment, some cases getting well under anti-syphilitic remedies, and some not. In the early stages, he did not think we could make the distinction. It was important to remember that the paper was devoted exclusively to the results of mechanical treatment among dispensary patients, and he thought that these had unquestionably demonstrated the fact that one adequately equipped dispensary could do the work of three or four hospitals among this class of patients, and at a far less expense. In regard to medicines, the Orthopaedic Dispensary, on account of the large expenditures which it had to make for mechanical appliances, was not able to furnish these. In private practice, however, he was in the habit of using internal remedies whenever they seemed to be indicated.

He did not wish to bring up the question of mechanical treatment *versus* excision. The cases which were spoken of as incurable were those which were incurable as regards deformity, and not the disease itself. Patients with chronic suppuration and sinuses were not given up at all, but followed up until they died; and, in private practice, some of his best results had been in cases of this kind. If he could have the entire control of the child, the parents could be induced to give it the benefit of fresh country air and other needed hygienic conditions, a good result could almost invariably be obtained, provided amyloid degeneration did not occur. In his experience, there were fewer deaths and better general results from mechanical treatment, with this special oversight on the part of the surgeon, than from excision. In the patients which had been referred to in the paper as being eight years under treatment, the eight years were spent, not in combating sinuses, but in getting the best ultimate position and most serviceable limb. These were mostly cases of dry caries. He was not opposed to excision, but he believed that it should be resorted to but rarely. In cases of which he had the entire control, it was seldom or never necessary.

— The Health Committee in the canton of Vaud, Switzerland, has prohibited any public performances of hypnotism, magnetism, or somnambulism. Even medical and scientific men must obtain permission before being allowed to make scientific experiments on those subjects. The reports of recent experiments made in France, would seem to show that such restrictions were not uncalled for.

ASSOCIATION OF AMERICAN PHYSICIANS.<sup>1</sup>

## SECOND ANNUAL MEETING.

## ATROPHY OF THE GASTRIC TUBULES: ITS RELATION TO PERNICIOUS ANEMIA.

by DR. F. P. KINNICUTT, of New York.

The speaker gave the histories of two cases, in which the typical symptoms of pernicious anemia were well marked. At the autopsy in each of these cases, nothing special was found in any organ but the stomach. The inner surface of the organ was smooth. Microscopical examination was made of numerous sections removed from different parts of the stomach. Throughout a large extent, no trace of gastric tubules was found. In some parts, the more superficial portions of the tubules could be found, but the deeper portions could nowhere be made out. There was also seen a peculiar hyaline substance, in the shape of tubes and of drops. Numerous irregular cells were seen near the surface of the mucosa. The author thought that, in this lesion of the stomach, was to be found the explanation of a certain number of cases of pernicious anemia.

## AFTERNOON SESSION.

## DISCUSSION OF DR. KINNICUTT'S PAPER.

DR. FRANCIS DELAFIELD, of New York. In these cases of pernicious anemia, it is natural to look for some influences which would affect the general nutrition. In a number of cases, marked changes in the mucous membrane of the stomach have been found. The main question is, whether the lesion of the stomach is to be looked upon as a cause or as the result of the pernicious anemia. For myself, I look upon the lesion of the stomach as secondary, and not primary. If we attribute the anemic condition to the lesion of the stomach, the condition must be due to a form of starvation. In many other diseases leading to starvation, we do not find the symptoms of pernicious anemia developed.

DR. F. P. HENRY, of Philadelphia. The cases reported by the author, taken in connection with other cases which have been recorded, demonstrate that there is a form of anemia associated with, and, I think, dependent upon, atrophy of the gastric tubules. That this condition is primary, and not secondary, is, I think, sufficiently attested by the fact that it is not found in any other condition. Such an extreme degree of atrophy has not been found in any other condition with which I am acquainted. In the case reported by Dr. Osler and myself, there was complete absence of the peptic glands. It was impossible that any form of gastric digestion could be accomplished. In cases of starvation there is a capacity for digesting food, and in these cases, I think that the condition of the blood which we consider pathognomonic of pernicious anemia does not exist.

DR. WILLIAM OSLER, of Philadelphia. There is unquestionably a group of cases of pernicious anemia in which there are serious lesions of the gastric mucous membrane, although these lesions are not always the same. I think that it is quite impossible to distinguish clinically the cases with gastric atrophy from the cases without these lesions. In a case of two years' standing, although the symptoms were marked, the autopsy revealed no serious lesion of the stomach.

<sup>1</sup> Concluded from page 613.

DR. F. P. KINNICUTT, of New York. In my paper, I distinctly stated that this lesion was found only in a certain number of these cases.

## A THIRD CONTRIBUTION TO THE STUDY OF LOCALIZED CEREBRAL LESIONS.

by DR. E. C. SEGUIN, of New York.

The first case reported related to the location of the facial centre. The patient, a boy of seven years, was first seen in January, 1885. He had been complaining of numbness in the right hand. The right leg and arm were slightly paretic. There was no headache and no aphasia. Shortly after, this clonic convulsive movement occurred in the right cheek, and both eyeballs were turned to the right. This lasted for over two hours. At times the speech was thick. There was no history of serious injury, and there was no evidence of pulmonary, renal, or arterial disease. There was no cranial tenderness on pressure. The tongue, when protruded, deviated to the right. The diagnosis was meningeal adhesion over the precentral region. Iodide of potassium was given in gradually-increasing doses, until from sixty to seventy-five grains were taken. Early in April of the following year, symptoms of tubercular meningitis developed, and the child died after an illness of three weeks. At the autopsy, the ordinary lesions of tubercular meningitis were found. In addition, there was a patch of adhesion situated over the left precentral gyrus and the caudal part of the second frontal gyrus. This was one inch in diameter. This would indicate that, in the human brain, the facial centre is in the caudal end of the second frontal convolution.

The second case related to the situation of the leg centre. A patient, aged forty-nine years, suffered with paresis of the right leg, and clonic spasm of the right abdominal muscles. There were right hemi-epileptic attacks, the spasm beginning in the abdominal muscles, and extending to the arm and leg. These attacks were repeated without loss of consciousness. Paralysis of the right leg, and paresis of the right arm developed. There was no aphasia, and no choked disc. Attacks of a syncopal character occurred, in one of which the patient died. At the autopsy, a large sarcomatous tumor was found, involving the cortex of the paracentral region gyrus. Two small nodules were found in the white substance below the principal tumor. This would indicate that the nerve-centre for the leg was in the paracentral lobule.

## DISCUSSION.

DR. JAMES J. PUTNAM, of Boston. With reference to the leg centre, I would report a case recently under my care: A man of forty-five, suffering with locomotor ataxia, probably of syphilitic origin, suddenly developed convulsions of the right arm and leg, without loss of consciousness, and without change in the voice. The symptoms relating to the arm entirely passed away, but the leg never recovered its normal condition. The patient died some time later, and, at the autopsy, a small hemorrhage was found at the lower edge of the paracentral lobule.

DR. F. T. MILES, of Baltimore. A patient of mine suffering with Bright's disease suddenly became hemiplegic, without the voice being affected. The arm and leg were affected. He rapidly improved, but the leg remained weak. He complained a great deal of a dragging in the shoulder. At the autopsy, the only

lesion that could be found was a hemorrhage of the size of a bean in the paracentral lobule.

Dr. H. M. LYMAN, of Chicago. Some months ago, I saw a case in which there was a sudden convulsion without loss of consciousness, the left arm being principally affected. These convulsions were repeated. There was a parietic condition of the left arm, which, in a few days, extended so as to involve the corresponding leg. The convulsive movements of the upper extremity continued to recur. They did not involve the face. The patient died, and a sarcoma was found on the right side, occupying the position of the centres for the arm and leg.

ON THE FREQUENCY WITH WHICH LEAD IS FOUND IN THE URINE, AND ON THE SYMPTOMATOLOGY OF CHRONIC LEAD-POISONING.<sup>2</sup>

by DR. JAMES J. PUTNAM, of Boston.

The following conclusions were presented:

(1) It is probable that lead may cause neurasthenic symptoms, which may exist for a long time without other signs of poisoning.

(2) The same is true of fine muscular tumor, especially if associated with debility.

(3) The most important conclusion is, that lead seems to cause, occasionally, a greater or less degree of the symptoms classed as spastic paraplegia, instead of the usual type of paralysis, with atrophy and loss of the deep reflexes.

(4) Additional evidence is furnished of the importance of suspecting lead as a cause of vague cerebral symptoms, such as are often due to syphilis.

(5) In one case of epilepsy in a person not predisposed, and where the probable first attack occurred at the age of twenty-five, besides the discovery of lead in the urine, there was a slight weakness and impairment of electrical reaction of the long extensors of the fingers.

Two cases of ataxia, with extensive muscular atrophy and other signs of peripheral neuritis, were reported, probably due to lead.

FORMS OF TYPHOID FEVER SIMULATING REMITTENT MALARIAL FEVER.

by I. E. ATKINSON, M.D., of Baltimore.

Continued fever simulating remittent fever is often observed in malarial localities especially, and is often regarded as such or as typho-malarial fever. While it is now generally recognized that the latter title does not designate a specific integral disease, every one admits the frequent concurrence of the two principles. The term is unfortunate, as misleading and encouraging lax habits of observation and treatment. The tendency to attribute the later evolution of frank typhoid symptoms from what at first appeared to be a malarial fever, to a transmutation of the latter disease to the former is of course unjustifiable. The theory that typho-malarial fever or continued malarial fever, is a combination of a septic and malarial poison as defended by Loomis and others, is rejected, for the reason that the term sepsis is used too indefinitely, and cannot explain facts in the course, history and pathology of the affection, which, however, may be perfectly reconciled with a typhoid origin. It is apparent that the term typho-malarial is made to include many groups of atypical cases. The object of the present paper is to describe forms of typhoid fever, in

which all the usually characteristic symptoms are absent, except mild fever. The cases commonly occur during the late summer and early autumn. They begin with a chill or insidiously, and assume a course of a mild remittent type, never passing into a typhoid condition, never developing the characteristic symptoms of typhoid, yet absolutely uninfluenced by anti-periodic treatment. They last three, four or even five weeks, and almost always end in slow lysis and recovery. They resemble malarial conditions, except in the persistence of fever, under strongly anti-malarial treatment, and in the occasional concurrence of circumstances pointing to a typhoid origin. There is no hebetude, the patient sleeps well, the tongue is slightly coated, there is almost never epistaxis; constipation is commonly observed, there are no bloody stools, no tympanites, no iliac tenderness, nor gurgling, and rose spots are usually absent. The patient is bright and cheerful. The more severe cases after beginning as remittents, may gradually evolve typhoid symptoms. Three cases were reported showing the type of fever described, occurring under conditions indicating their typhoid origin. While typhoid fever is one of the most characteristic of diseases, its special symptoms are very inconstant. There is not a sufficient realization of the mildness with which it often runs its course. Walking typhoid, although usually considered rare, is in reality frequent. Cases in which sudden accidents reveal their true nature, are probably but a small portion of the whole number. Our views of typhoid fever have been largely modified. Low ranges of temperature are now often encountered. Straube and Fraentzel and others, have reported severe forms of the disease with high mortality, although the temperature did not attain 102.2°. Normal and even sub-normal temperatures are sometimes maintained throughout the attack. In some cases a slight degree of fever heat is not at all uncommon. Liebermeister and others reports such cases. Loomis treats "mild typhoid" with walking cases, and states that the eruption appears early and is scanty and brief, and that diarrhoea is present in most cases. This is true of many cases, but there is a large class in which constipation is the rule and rose spots the exception; much larger than is generally admitted. Liebermeister and others described interesting examples. Dr. W. W. Johnson has most accurately described similar cases occurring in Washington. Malaria often complicates typhoid fever, but it oftener happens that its presence is assumed unjustifiably. A mental bias in favor of malaria is often strongly pronounced in the face of the strongest contrary evidence. The diagnosis of these cases from remittent malarial fever, often rests upon the crucial test of treatment. It is admitted that occasionally antiperiodic remedies fail to control the malarial paroxysm, especially in pernicious and adynamic forms. In milder forms the behavior under quinine, practically solves the difficulty. Where the full administration of the anti-periodic remedy, for a number of days, fails to terminate the attack, the diagnosis of typhoid fever becomes justifiable, and the prognosis can be made with a high degree of confidence. Not often earlier than the second, or later than the fourth week, the fever will terminate almost constantly by lysis, rarely by crisis. There are, however, exceptions, as shown by the occasional occurrence of death in walking typhoid and in other milder cases. Unquestionably, however, many cases of walk-

<sup>2</sup> To be published in full in a future number of the Journal.

ing typhoid are never detected. They may often, if examined, exhibit characteristic symptoms, diarrhoea, rose spots, splenic enlargement, etc., but in not a small number, these signs are not discovered. The true nature of many of these milder cases is never recognized, and the pathological responsibility is thrown upon febricula, simple continued fever, gastric fever, bilious remittent fever, remittent malarial fever, etc. In the future, a solution of the difficulty will be obtained through the knowledge derived from bacteriological research and culture observations.

## DISCUSSION.

DR. WILLIAM H. DRAPEL, of New York. I see many cases in New York which have been diagnosed as typho-malarial fever which I consider to be cases of typhoid fever. I think that the diagnosis of typhoid fever can be usually made in the course of the first week of the disease, by attention to the characteristic course of the fever. The nervous symptoms of typhoid fever are of great importance in the diagnosis. In considering a disease like this, we should study it in its totality, and not in its elementary parts.

Dr. Atkinson has spoken of the aid given by quinine, in the diagnosis. My own experience confirms that of others, with reference to the use of quinine as an antipyretic in typhoid fever. Unless used in such doses as to produce a certain degree of collapse, it is useless. I believe that it does nothing more than to increase the discomfort of the patient. If in five or six days the use of quinine does not succeed in checking the fever, we may conclude that we are dealing with a continued fever of the nature of typhoid.

DR. JOHN GUTERAS, of Charleston. I have had an opportunity of studying these cases, both in the North and in the South, and I have come to a conclusion different from that expressed by the author. These cases present no symptom of typhoid fever with the exception of the continued fever, and this is a strong argument against their being typhoid. These cases are so numerous as we go farther South, that I would class them as a separate disease. I have examined some of these cases of prolonged continued fever of Southern countries, post-mortem, and have failed to find the lesions of typhoid fever. In the South we have these three diseases, malarial remittent fever at one end, typhoid fever at the other, and between these we have cases of the kind described by Dr. Atkinson. My view of this fever is, that it belongs to the class of functional fevers. A simple continued fever may be set up by an excessive demand made upon any of the important functions of the body. I have thought that in warm climates where constant exertion was required on the part of the heat centres to keep within limits the production of heat, a paralytic condition of these centres might be induced, especially towards the close of a long and hot summer. This fever presents none of the symptoms of a malarial affection, and is quite common in sections where malaria is unknown.

DR. A. JACOBI, of New York. I think it a mistake to say that those cases in which the fever cannot be broken in five or six days by quinine are not malarial. There are cases of remittent fever that will not be broken by quinine. There is one assistance in diagnosis which I have not heard alluded to, and that is the urine-test. This has frequently been of much service to me. It is prepared as follows:

Solution No. 1: Sodium nitrite, one part; water, two hundred parts.

Solution No. 2: Sulfanilin acid, five parts; concentrated muriatic acid, five parts; water, one hundred parts.

Add one-and-one-fifth parts of the first solution to fifty parts of the second.

Equal parts of this mixture and the urine are to be mixed. Then add about sixty or seventy per cent. of aqua ammonia. In normal urine there will only be a slight discoloration, while in urine from typhoid fever there will be a deep purple discoloration. This test is rarely applicable during the first two or three days. It generally can be applied up to the fifteenth or eighteenth day. It should also be stated that, in cases of acute miliary tuberculosis, the same reaction is obtained.

DR. W. W. JOHNSTON, of Washington. It is well known that in places where malaria has largely prevailed, as cities have grown and drainage improved, malarial affections have diminished, and typhoid fever has increased. This has been the case in Washington. It has also been observed in London. The cases of typhoid fever which I have observed may be arranged into three groups: Those in which all the symptoms have been present; those in which only one has been present; and those in which all the symptoms, with the exception of the fever, has been absent. I see no reason, clinically, for saying that these cases which present the typical temperature of typhoid fever are not cases of this disease. It is not necessary that the temperature should reach any special degree. Any temperature, provided it presents the typical curve, may be characteristic of typhoid fever.

DR. R. H. FITZ, of Boston. An epidemic of an anomalous form of fever recently occurred in Boston, among a number of emigrants. The diagnosis lay between typhoid and typhus fever. It was concluded that they were cases of typhoid fever. One case ended fatally. The intestinal lesions were of the most trivial character. The enlargement of Peyer's patches was no greater than is seen in many cases of enteritis. The lesions were so superficial, that it seemed quite probable that they would have disappeared if the patient had lived a few days longer.

DR. ISRAEL T. DANA, of Portland. Some of the cases to which Dr. Fitz has referred found their way to Portland, and one of them died there. The autopsy in this case showed well-defined, but not complete, lesions of typhoid fever. I believe that this is what will generally be found: that the atypical cases will present lesions as imperfectly developed as the symptoms.

DR. W. J. COUNCILMAN, of Baltimore. I had expected to hear some allusion made to the examination of the blood as a means of diagnosis. I think that a simple examination of the blood will enable us to differentiate between the continued malarial fevers and typhoid fever. The organisms found in these cases of continued malarial fevers are very easy to recognize. They are large, crescentic forms, free in the blood, and not contained in the corpuscles. They do not require a high power for their detection.

DR. WILLIAM OSLER, of Philadelphia. I quite agree with the last speaker that we have, in the microscopical examination of the blood, a positive means of diagnosis. I have no doubt that in these doubtful cases, a careful examination of the blood will determine whether they are malarial or not, while a careful

examination by culture methods will determine whether or not it is a case of typhoid fever.

I have had three instances in which the examination of the blood aided in the diagnosis. One was a case of continued malarial fever, thought to be typhoid. Another was a case of remittent fever, supposed to be typhoid. In both these instances, examination of the blood showed the case to be malarial. In the third instance the patient had a chill, which was repeated. It was supposed to be a case of remittent fever, but the malarial organisms were not found. The case pursued an atypical course, and when two weeks advanced in convalescence, had a well-marked relapse of typhoid fever.

DR. I. E. ATKINSON, of Baltimore. I have been much interested in the remarks made by Dr. Guiteras. The cases which I have reported were, I think, cases of typhoid fever. I have never seen death in these atypical cases. I claim that the cases of fever which occur in this locality, and which present the characters which I have described, are cases of typhoid fever, and not of malarial fever.

#### EXECUTIVE SESSION.

The report of the Committee on the Congress of American Physicians and Surgeons was received and adopted, and Dr. William Pepper, of Philadelphia (with Dr. Reginald H. Fitz, of Boston, as alternate), was appointed as the representative of this Association.

#### OFFICERS FOR THE ENSUING YEAR.

*President*, Dr. William H. Draper, of New York. *Vice-Presidents*, Dr. Francis Minot, of Boston, and Dr. J. Palmer Howard, of Montreal. *Recorder*, Dr. William Osler, of Philadelphia. *Secretary*, Dr. Henry Hun, of Albany. *Treasurer*, Dr. W. W. Johnston, of Washington.

The following were elected to active membership: Drs. A. V. Meigs, Louis Starr, and J. H. Musser, from Philadelphia; Dr. James E. Reeves, from Wheeling, W. Va.; Dr. William H. Whitney, from Boston; Dr. James Stewart, from Montreal; and Dr. M. Allen Starr, from New York.

Dr. John S. Billings, of Washington, was elected to honorary membership.

Adjourned.

#### THE AMERICAN LARYNGOLOGICAL ASSOCIATION.<sup>1</sup>

##### NINTH ANNUAL CONGRESS.

##### A CASE OF STENOSIS OF THE LARYNX TREATED BY DIVULSION AND SYSTEMATIC DILATATION,

by MORRIS J. ASCH, M.D., of New York.

Miss K., up to the age of twenty-seven years enjoyed good health. She then had some pulmonary trouble, the exact nature of which could not be ascertained. In 1884, she had some wheezing in breathing, with slight cough. These symptoms increased in intensity gradually, and in May, 1885, the patient came under the observation of the author. There was at this time great dyspnea, which was increased by lying down. Examination of the throat showed no abnormality in the larynx or above the cords. Below the cords there were two white swellings united by a membrane posteriorly. The opening of the larynx was diminished to one-third of the normal size. The

membrane was cut, and divulsion performed. This caused great improvement. Later, metallic sounds were used daily and the forceps once a week. She grew much better and ceased attending. In September, she again returned, with the difficulty of the breathing as great as before. This was the result of acute inflammation of the larynx. Under the use of steam and cold compresses the swelling subsided. O'Dwyer's tubes were tried, but they at once produced spasm, and were coughed out. Schroeder's hard rubber tubes were then used, and within three months the cure was perfect. All the symptoms have now disappeared. There was no history of syphilis, and no history of previous inflammation. The trouble was evidently the result of subchordal hypertrophic laryngitis.

DR. J. SOLIS COHEN, of Philadelphia. My experience in stenosis of the larynx has been limited. In one case, reported twenty years ago, I removed a morbid growth by thyrotomy after it had been destroyed by the internal use of the galvano-cautery, which was probably the first use of the galvano-cautery for this purpose in the United States. The growth had been examined by several microscopists who pronounced it epithelioma, but this was evidently an error, as the patient still lives. On this supposition, I separated the thyroid cartilage and removed the tumor with one vocal cord. Preliminary tracheotomy had been performed ten days previously. The operation was followed by adhesion of the vocal cord to the tissue of the opposite side. I then devised an instrument to cut this adhesion. I have never had the courage to attempt dilatation of the larynx without previous tracheotomy. I think it better to perform tracheotomy, so as to have nothing to interfere with the breathing and then pursue the most active measures for the relief of the stenosis. When the operation is performed with antiseptic precautions, the tracheotomy wounds heal up in a very short time. I have seen it closed within four or five days of the operation. I think that the danger from the operation is less than the risk of injury from the other methods of treatment.

DR. E. C. MORGAN, of Washington. I recently had under treatment a case of laryngeal stenosis. During a period of eight or ten months I was enabled to control this by the administration of iodide of potassium and by local applications of iodo-glycerine to the larynx. Finally, the disease advanced so far that on several occasions I advised tracheotomy to be followed by dilatation. The patient postponed the operation a number of times, although warned of his danger. He had at times suffocative spells at night, and finally, succumbed to one of these spasmodic attacks. I think that if tracheotomy had been allowed and dilatation performed, that man would have been alive to-day.

DR. D. BRYSON DELAVAN, of New York. The various forms of dilators used in these cases are likely to be replaced by O'Dwyer's tubes. This method has a most promising future before it. The tube can be left in for a length of time and respiration not interfered with.

##### ON THE ETIOLOGY OF DEFLECTIONS OF THE NASAL SEPTUM.

by DR. D. BRYSON DELAVAN, of New York.

##### FOREIGN BODY IN THE LARYNX.

by DR. S. W. LANGMAID, of Boston.

<sup>1</sup> Concluded from page 615.

The patient came under observation three months after swallowing a pin about two inches in length. The pin had lodged in the throat, and immediately after the accident an unsuccessful effort had been made to remove it with the bristle probang. At the time that she came under the speaker's notice, there were ulcerations of the larynx which were relieved by treatment. Two years later the patient again presented herself and an examination showed the pin, which had emerged from the ventricular band with the head down. It was with some difficulty removed.

DR. J. SOLIS COHEN, of Philadelphia, stated that in several instances he had seen on examining the pharynx what appeared to be the belly of a muscle above the mouth of the Eustachian tube, and that from this there extended to the fornix of the pharynx what looked like a tendon. This he had seen on both sides. He asked whether or not any of the other members had observed the same appearance.

#### RECURRENT NASO-PHARYNGEAL TUMOR. CURE BY ELECTROLYSIS.

by DR. RUFUS P. LINCOLN, of New York.

The patient presented himself in April, 1886. A growth had been removed from the posterior nares by another physician one year previously. It returned, and the operation was repeated six months later. When the patient came under observation he was unable to breathe through the left nostril. On examination a large growth was found occupying the left half of the posterior nares, and it was decided to treat this by electrolysis. On June 3d, two needles connected with the negative pole of the battery were introduced through the anterior nares into the growth, while the positive pole terminated in two large sponge electrodes which were applied to the front and back of the chest. In all, sixteen applications were made at intervals of three or four days. This caused an entire disappearance of the growth. The immediate effect of the electrolysis was to cause distension and a change in the color of the growth, but these passed off in the course of twenty-four hours. There is up to the present time no evidence of the return of the growth.

DR. F. H. HOOVER, of Boston. In October, 1881, a youth presented himself with a tumor extending from the tip of the right nostril into the naso-pharyngeal cavity. There had been a great deal of hemorrhage and the patient was in a bad condition. He was sent into the hospital and operated on by Dr. J. C. Warren, with the galvano-cautery snare, and the whole mass removed in one piece. From that time to this the patient has been constantly under treatment. The tumor has been growing, and from time to time I have snared it off. The tumor has been pronounced to be a most malignant form of myxo-sarcoma, but the general health is excellent. I propose next to try the effect of electrolysis.

DR. D. BRYSON DELAVAN, of New York. During the past fifteen years I have seen a number of these patients operated upon, and I recall many cases in which the result was disastrous. Although there have been successful cases, none have come under my observation. The great point is in the early diagnosis. If taken in time, even if it cannot be cured, it can, as a rule, be kept in check. After the age of twenty-five years, it has been stated that these tumors have a tendency to stop growing, so that if kept in check until this age, they may entirely disappear. It

seems to me that the galvano-cautery exercises a modifying influence on the tissues which remain, which cannot be caused by the knife.

#### TWO UNIQUE CASES OF CONGENITAL OCCLUSION OF THE ANTERIOR NARES.

by W. C. JARVIS, M.D., of New York.

Complete congenital occlusion of the anterior nares is rare, and the author had been unable to discover any cases in searching the literature of the subject. The first case was a young man eighteen years of age, with complete closure of both nostrils. Inspection showed on each side within the anterior nares, a cup-shaped depression of white glistening membrane. On the left side a small hole was discovered. The operation was performed in April, 1886. The burrs devised by the speaker, connected with an engine, were used to cut through the cartilaginous occlusion. This was accomplished in a few minutes; the air passed freely through the nostril. At a subsequent operation the right nostril was opened. In April, 1887, the opening in the right nostril had become contracted and had to be reopened. A second case in which the anterior nostrils were included by an osseous occlusion, the operation was performed in the same manner as in the previous case, with successful result.

#### AFTERNOON SESSION.

#### A COMPARATIVE STUDY OF SOME OF THE METHODS OF TREATMENT BEST ADAPTED TO THE RELIEF OF OCCLUSION OF THE POSTERIOR NARES.

by DR. ALEXANDER W. MACCOTY, of Philadelphia.

He confined his remarks to occlusion due to enlargement of the soft parts. He had never seen occlusion of the posterior nares due to osseous growth. He referred to the methods used in the treatment of occlusion of the posterior nares, and highly recommended the use of chromic acid fused on the end of a probe, the end of which is covered with a tube which is withdrawn when the probe has reached the desired position. This is followed by the use of an antagonistic solution. He had found this better than the use of the galvano-cautery. Since using cocaine, he had not been able to use the cold wire snare in these cases, on account of the contraction caused by the drug. He had also found difficulty in using the needles recommended by Dr. Jarvis. The chief object of the paper was to call attention to the superiority of chromic acid used in this way, over the other methods of treatment which had been recommended. He did not recommend the use of the acid either in crystal or in solution, for then it was not easy to limit the application to the desired point.

DR. W. C. JARVIS, of New York. I never use cocaine as a preliminary measure where I intend to remove posterior hypertrophies. I first include the hypertrophies in the loop, and draw the wire home and then apply the cocaine-spray. The tissue included in the loop cannot be affected by the contraction produced by the drug. We thus have the advantages of the anesthetic without its disadvantages. It has been pretty generally recognized that chromic acid has many disadvantages. It may produce serious symptoms. The snare will accomplish in a few minutes what chromic acid requires considerable time to do.

DR. C. C. RICE, of New York. I agree in the main with what the author of the paper has said. The turbinated bodies are difficult to penetrate with the

needles, and there are many cases in which it is difficult to apply the loop posteriorly. I have not found any special disadvantages in the use of chromic acid.

DR. D. BRYSON DELAVAN, of New York. I formerly used chromic acid, but then gave it up. Lately I have again tested it, selecting for this purpose five patients, three of whom were physicians. I added enough water to the crystals to make them deliquesce and then applied it with a cotton-wrapped probe, the excess of acid having been removed. I have also used it by fusing it on a probe. In all these cases there was more reaction than follows the use of the cautery or the snare, and all the patients preferred the cautery to the chromic acid.

#### PLASTER-OF-PARIS DRESSING FOR FRACTURE OF THE NOSE,

by DR. J. W. ROBERTSON, of Detroit, read by title,

DR. DEBLOIS, of Boston, exhibited a plaster splint which he had employed with advantage in a case of fracture of the nose. The splint consisted simply of a plaster cast into which a piece of roller bandage had been incorporated. This was applied over the nose, and held in position by the strips of bandage.

DR. J. O. ROZ, of Rochester, exhibited a nasal saw run by an electric motor.

#### EXECUTIVE SESSION.

The report of the Committee on the Congress of American Physicians and Surgeons, was presented, received and adopted.

The following are the officers for the ensuing year: President, DR. R. P. LINCOLN, of New York; Vice-Presidents, DR. J. N. MACKENZIE, of Baltimore, and S. W. LANGMAID, of Boston; Secretary and Treasurer, DR. D. BRYSON DELAVAN, of New York; Librarian, DR. T. R. FRENCH, of Brooklyn; Council, DR. FRANK DONALDSON, of Baltimore, J. SOLIS COHEN, of Philadelphia, F. H. HOOPER, of Boston, and E. C. MORGAN, of Washington.

The following were elected Corresponding Fellows: DR. A. GUGENHEIM, of Paris, and J. MOURE, of Bordeaux. DR. A. JACOBI, of New York, was elected Honorary Fellow.

The Association then adjourned.

#### AMERICAN MEDICAL ASSOCIATION.<sup>1</sup>

THIRTY-EIGHTH ANNUAL SESSION, CHICAGO, JUNE 7TH, 8TH, 9TH AND 10TH, 1887.

#### FOURTH DAY.

There was a large falling off in the attendance at the session of the American Medical Association at Central Music Hall. The Rev. Dr. Vibbert offered prayer, after which the Nominating Committee presented a final report, recommending that the following be appointed to deliver addresses before the Association next year: On Medicine, R. BEVERLY COLE, of California; on Surgery, F. M. MOORE, of Rochester, N. Y.; on State Medicine, J. P. CONNELL, of Virginia. They also reported a resolution that a committee of three be appointed to notify the gentlemen, and to fill any vacancies that might occur. The report was adopted, and Drs. Toner, of Washington; Gussone, of

North Carolina; and Colvin, of New York, were appointed.

Surgeon-General Hamilton offered a resolution by which the Government was to print the reports of Dr. Sternberg, for the benefit of the medical profession. The resolution was adopted.

DR. J. S. MARSHALL, Chairman of the Section of Dental and Oral Surgery, read his annual address, in which he pointed out the rapid strides made in dentistry of late, and that the effort now was to save teeth, rather than extract them, the latter course only being pursued as a last resort. He entered a protest against the principles set forth in medical articles relative to the filling of teeth causing disease of the facial muscles, and advocated that, in every medical college, a professorship of dental surgery, by which the students would receive, at least, a theoretical knowledge of dental and oral surgery, and the treatment of diseases of those classes, and be enabled to advise their patients how to take care of their teeth, and when to consult a dentist. The address was ordered printed.

DR. I. N. QUIMBY, of New Jersey, Chairman of the Section on Medical Jurisprudence, read an address, in which he traced the origin of a medical jurisprudence, reviewed the creation of the office of coroner, the application of law to medicine, laws regulating marriage, etc., and then passed on to criticize feticide and infanticide, asserting, amid applause, that the destruction of the fetus at any period of gestation was murder, and God forbid that any physician should be tempted by appeals, or a fee, however large, to become the assassin of the human race at any period of gestation. He suggested that a committee be appointed to report at the next meeting on the criminality of feticide, and that measures be at once commenced for legislative action for its punishment. He also asserted that the countries of Europe are foisting a large number of their insane on this country, which apparently increases the ratio of insanity in this country, when, in fact, the ratio is not increasing. He then drew attention to the increased use of alcoholic stimulants, and, after much study, and a good deal of close attention to the subject, he had arrived at the conclusion, which would be regarded as a radical one by many, that drunkenness was a wilful act, for which the drunkards should be held responsible before the law, and that it would never be repressed by fining the dealers or retailers of spirits. He also held that the State, by licensing saloons, became *particeps criminis*, and denied that drunkenness was a disease. He closed with a hope that the medical profession had something to do with drunkenness, and should do all in its power to destroy the hydra-headed monster, which is stalking through so many homes, and committing every conceivable description of crime. The address was referred to the Committee on Publication.

DR. TONER, from the Committee on Necrology, reported that the Massachusetts delegation had informed him of the death of forty members during the past ten years, and he wished the members would report promptly the demise of any members.

The next business was the report of the standing committee on meteorological conditions and the relations to the prevalence of disease; also concerning the collective investigation of disease, in cooperation with the committee of the British Medical Association. DR. DAVIS, chairman of the committee, said he had collected a lot of information, but had not had time to

<sup>1</sup> Continued from page 637.

arrange it for a report, and it was not in such a shape that he could let any one else do so. He therefore reported progress. The report was accepted, and committee continued.

Dr. DAVIS then offered a resolution providing that graduates of dental colleges which required a standard of general education and a term of study equal to the best medical colleges, and a curriculum embracing the entire fundamental branches of medicine, but substituted practical and clinical instructions in oral and dental surgery, and medicine for clinical instruction in general medicine and surgery, be admitted members of the Association. Such a resolution, if passed, would remove a source of embarrassment, and tend to induce dental colleges to raise their standard.

The resolution was seconded and carried *nem. con.*

Dr. Davis then offered a resolution that, in future, the Committee of Arrangements reserve the third evening of the session for a dinner of the Association, the members to be at liberty to attend or not, as they pleased, and to put their names down for tickets with or without wine, as they chose. They would then be enabled to meet around one board and spend an evening in harmony, without any one being compelled to pay for wine for some one else to drink, and guard against the extravagance which heretofore existed, when the banquet cost \$10,000.

The motion was seconded and adopted.

Dr. WILSON moved that an honorarium of \$300 be granted to the Secretary.

Dr. BALDWIN seconded the motion.

Dr. DAVIS said, after giving \$1,000 to the International Medical Congress Committee, that would about use up their balance, as it was the wish of the Association that the report should be made more valuable, and the trustees had been ordered to use all available funds for that purpose, he moved, as a substitute, that the trustees be constituted a finance committee, to which should be referred all matters of finance, consideration and report.

The substitute was adopted, and, on being put as a substantive motion, was adopted.

The SECRETARY read a telegram from Dr. Alexander Y. P. Garnett, the new President, acknowledging the honor conferred upon him by his election and regretting that the exigencies of his profession prevented his making his acknowledgment in person. The despatch was ordered entered on the minutes.

The Committee on the Sanitary Condition of Emigration Vessels, of which Dr. Bell is Chairman, was requested to continue its labors.

On motion of Dr. WOOD, a committee of three was appointed to report at the next meeting on the subject of "Dietetics." Drs. Wood, J. T. Whitaker, and F. Woodberry, being the Committee.

Dr. BRODIE moved a vote of thanks to the Committee of Arrangements and the residents of Chicago for the entertainment they had received, and also to the press for reporting the proceedings, which was adopted.

The PRESIDENT then said: Gentlemen, my work is finished. I wish it were done better; it has been done the best I could. There is nothing for me remaining but to say: "Thanks, good-bye, God bless you." I would gladly introduce to you your new President, but that is out of the question. I have learned that he is a man; that he possesses those qualifications which will be in keeping with the men who

have gone before him in this office; that he is a man of character, possessing all those qualities of mind and heart and capability which will insure success in his new position. I remember, thirteen months ago, the only man I envied was Dr. Brodie, the retiring President. I am proud to have been your President, and it will always be a pleasant remembrance. It only remains for me to add that you have honored and trusted me, and been most deferential and indulgent, and I offer you my heart's sincerest thanks. I now declare the meeting adjourned *sine die*.

## Recent Literature.

*The Science and Art of Obstetrics.* By THEOPHILUS PARVIN, M.D., LL.D. 8vo, pp. 701. Philadelphia: Lea Brothers & Co. 1886.

This is a scholarly work, and an ornament to modern obstetric literature. The style is clear and polished; the illustrations are numerous and accurate; the typography and press-work are of the uniformly high standard of excellence that is always expected of the publishers.

The book is especially distinguished for its wealth of historical allusions and for its profuse quotations of authorities. These features make the work one of peculiar value to the physician, but render it less desirable for the student. Undergraduates require, we believe, more dogmatic teaching, and had better leave the conflicting opinions of various authorities for the consideration of their maturer years. The student-physician, however, will delight in, and profit by, Professor Parvin's work, and to him we especially recommend it.

*Texas State Medical Association. Report of the Special Committee on Surgery.* Presented at the Annual Meeting, at Dallas, April 27, 1886. GEORGE CUPPLES, M.D., Chairman and Reporter, Austin, Texas. 1886.

As the title suggests, the book is a statistical record of the surgical work done in Texas previous to 1886. It represents the work of one hundred and thirty-eight surgeons, and has been compiled by the editors, a committee of the Texas State Medical Association, from the answers returned to their circulars. The cases are classified and arranged in tables quite convenient for rapid reference. Sixty-five pages are devoted to a detailed synopsis of 4293 operative cases, giving in each the age, sex, race, character of operations performed, name of surgeon, and result. Also, if antiseptic treatment was employed or not, the kind of anesthetic, and a summary of remarks. The remaining eleven pages of the work are occupied by abridged tables containing a synopsis of the general results obtained in each class of cases.

The results shown by this report are quite interesting; and the system adopted in the arrangement of the entire work very satisfactory. Carbolic acid has been the antiseptic most extensively used; and chloroform the most popular anesthetic (In 3179 of 3547 cases, with one death). Such reports, if issued annually, and with proper attention to accuracy in collecting and compiling the material used, will furnish the profession in a few years with much interesting valuable data.

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SCARLATINA CONVEYED BY MILK.

THAT scarlatina is occasionally transmitted through the medium of cow's milk is a fact which, of recent years, has been gradually assuming certainty in the minds of sanitary authorities. In view of the fact that other substances, when infected through diseased persons, were capable of carrying the infection, it was naturally supposed that milk acted in a similar way with other fomites, receiving its infection from some human being.

In 1881, Mr. Ernest Hart presented to the International Medical Congress the tabulated facts concerning all the milk epidemics which had been reported up to that time. Many of these had been investigated by the Local Government Board. In most of Mr. Hart's cases, the facts seemed to show that the origin of the infection, carried through the milk, had been in the human body, and in none was that possible origin disproved.

A class of cases began, however, to accumulate, in which the possibility of a directly human origin of the infection was not excluded, yet a careful study of the date of the outbreaks made it difficult to reconcile this view of a human origin to the disease with what is known of the period of incubation of scarlet fever. For instance, an epidemic of scarlet fever and sore throat occurred at Oxford, Eng., in 1882, among the persons supplied with milk from a dairy of three cows. The earliest cases of the outbreak occurred March 10th, and most of them developed several days later. The dairyman's child had had scarlet fever, and a young woman had had diphtheria, but the latter had been removed March 1st, and the former March 3d, and with the latter date, all chance of direct infection from these or any other persons ceased. The period of incubation of scarlet fever is, as a rule, less than seven days, yet almost all the cases developed from eight to twelve days after the patients were taken away, and the cows put into new hands. The suspicion arising in this case that the cows themselves may

have been at fault, was not confirmed by any actual evidence of such disease.

We have already laid before our readers<sup>1</sup> the particulars of two epidemics of scarlatina, investigated by the British Local Government Board, one in 1882, at St. Giles and St. Pancras, and the other in 1885, at Marylebone, from a dairy at Hendon, both cases showing a very strong presumption that scarlatina had been conveyed to human beings through the channel of milk, from a disease in cows, itself analogous, if not identical, with scarlet fever. As we remarked at that time, there was still lacking the evidence of inoculation into the human subject of a milk sub-culture, or of feeding of calves with such milk-cultures as appear to have been fed to children. The first of these proofs can hardly be expected, but the second has now been offered with considerable detail and conclusiveness by Dr. E. Klein, F.R.S., who has worked upon the matter at the instance of the Board, and who has given the result of his inquiry in a recent address before the Royal Institution. He finds that a microbe, the *micrococcus scarlatinae*, is the cause of human scarlet fever. Further, that it produces in bovine animals a disease identical with the Hendon disease and human scarlet fever, and that, consequently, while the cow is susceptible to infection with human scarlet fever, it can, in its turn, be the source of contagium for the human species, as was, no doubt, the case in the milk epidemic from the Hendon farm.

These conclusions are reached by Dr. Klein from observations and experiments showing that, in the blood and tissues of persons affected with scarlet fever, there occurs the same micrococcus that was present in the cow, both being identical in microscopical and in cultural characters. In the second place, it was found that the action of this microbe on animals is exactly the same as the micrococcus found in the Hendon cows. Calves and mice, after inoculation or feeding with a trace of the growth of both sets of micrococci, become affected with cutaneous and visceral disease, similar to human scarlet fever. In calves, the disease was of the same mild type as in the Hendon cows. Further, it was shown that from the blood and the tissues of these animals infected with one or the other set of cultivations, the same micrococcus was recovered.

Dr. Klein, furthermore, adds that he has found the micrococcus of scarlatina in several cans of a cheap brand of condensed milk, which was supposed to have given rise to scarlatina in persons who partook of it. The microbe is identical, he claims, with that obtained from the Hendon cows and from human scarlet fever, and inoculation experiments with it in calves and mice produced the same disease that arose from inoculation with the microbe, as obtained from the cow and from the human patient. This brand of condensed milk, it should be said, was not raised in the manufacture to a temperature high enough to destroy the micrococcus.

Again, there occurred during the beginning of this year, a severe epidemic of scarlet fever in Wimbledon.

<sup>1</sup> Vol. CXIV, p. 601. Vol. CXV, p. 115.

This epidemic was also traced to milk coming from a particular farm. In one of the houses supplied with this milk, there occurred cases of scarlet fever among human beings, and at the same time, a pet monkey, which also consumed a good deal of the milk, became ill; it died after five days. Dr. Klein made a post-mortem examination of this animal, and had no doubt about its having died of scarlet fever. From the blood of the monkey, he obtained, by cultivation, the same micrococcus as was obtained from human scarlet fever, from the Hendon cows, and from the condensed milk. Experiments made on animals with this micrococcus of the Wimbledon monkey showed that the same disease was produced both by inoculation and by feeding.

It will readily be seen that the corner-stone of Dr. Klein's demonstration of the production of scarlet fever in the human subject from disease in the cow, consists in the validity of his *micrococcus scarlatinae* as the cause of true scarlet fever in the human subject. On this point, we must await the final verdict of the micro-biologists. It is to be said that most of the previous discoverers who have described the microörganism of scarlatina have found it to be a micrococcus, among them Klebs, Coze and Feltz, Babes and Cornil. Eklund, of Stockholm, described in detail the microbe as a micrococcus, multiplying by fission, and named it *Plax Scindens*. Yet, on the other hand, the germ has been said by other authorities to be a bacillus, and even coincidentally with the announcement by Klein, two observers of the University of Edinburgh, Drs. Jamieson and Edington, have completed a series of observations, showing, to their satisfaction, a bacillus in the tissues of scarlatinous patients capable of cultivation, and inoculable in calves and other animals, with the result of producing true scarlatina in them.

The British Dairy Farmers' Association naturally felt somewhat disturbed by the report of Drs. Powers and Klein on the Hendon epidemic, and employed Professor Axe to investigate the subject. His report was published by the Agricultural Department of the Privy Council Office. He confesses to not having seen the affected cows until the characteristic eruption had, in almost all cases, disappeared. Nevertheless, he appears, as we judge from comments on his report, the document itself not being at hand, to have assumed that the disease was identical with another disease having a vesicular eruption, which latter did not convey scarlatina. His conclusions are evidently of small value in comparison with the observations of the officers of the Local Government Board, and their chief value would appear to be in illustrating the need of more careful study by veterinarians of the various eruptive diseases of the cow.

Dr. Klein believes that the milk of scarlatinous cows may convey the infection in two ways: both as a secretion of a diseased animal, and from the mingling in it of contagious particles brought off from the udder by the hands of the milker. He finds that a temperature of 85° C. (185° F.) will destroy the micrococcus of

scarlatina, and hence recommends that the milk be heated to that point, though not necessarily that it be boiled, before it is consumed.

#### A NEW BILL TO REGULATE THE PRACTICE OF MEDICINE IN ILLINOIS.

A BILL amendatory to the existing act passed the Senate of Illinois, May 10th, and the House of Representatives June 15th. It has received the Governor's signature and goes into effect July 1st. By it three classes of persons are specified as alone allowed to practice medicine in that State; (1) graduates in medicine from legally chartered institutions in good standing, who have presented their diplomas to the State Board of Health, for verification as to genuineness. (2) Those who, not possessing diplomas, have passed an examination satisfactory to the Board. (3) Those who have practised in the State for ten years; but these persons must, if they have not already done so, obtain a certificate to that fact from the Board of Health within six months of the taking effect of the act in order to secure registration. The certificates granted are to be signed by all the members of the Board and for each certificate of authority to practice general medicine the recipient is to pay five dollars into the treasury. For the certificate in midwifery the fee is two dollars.

All examinations of persons not graduates or licensees are to be made directly by the board, and the certificates given by the board authorize the possessor to practice medicine and surgery in the State of Illinois.

The fees for the examination of non-graduates are fixed as follows: Twenty dollars for an examination in medicine and surgery, ten dollars for an examination in midwifery only, to be paid into the treasury of the board. If an applicant fails to pass the examination, his or her fee is to be returned. Upon successfully passing the examination the certificate of the board issues to the applicant without further charge.

The State Board of Health may refuse to issue certificates to individuals guilty of unprofessional or dishonorable conduct, and it may revoke such certificates for like causes. In all cases of refusal or revocation the applicant may appeal to the Governor, who may affirm or overrule the decision of the board, and this decision shall be final.

Among the other important provisions of the act are the following:

"SECT. 10. Any person shall be regarded as practising medicine, within the meaning of this act, who shall treat, operate on, or prescribe for any physical ailment of another. But nothing in this act shall be construed to prohibit service in cases of emergency or the domestic administration of family remedies. And this act shall not apply to commissioned surgeons of the United States Army, Navy or Marine Hospital Service in the discharge of their official duties.

"SECT. 11. Any itinerant vendor of any drug, nostrum, ointment or appliance of any kind, intended for the treatment of disease or injury, or who shall, by writing or printing or any other method, profess to cure or treat disease or deformity, by

any drug, nostrum, manipulation or other expedient, shall pay a license of one hundred dollars per month into the treasury of the board, to be collected by the State Board of Health, in the name of the People of the State of Illinois for the use of said Board of Health. And it shall be lawful for the State Board of Health to issue such license on application made to the State Board of Health, such license to be signed by the President of the Board, and attested by the secretary of the board, with the seal of the board. Any such itinerant vendor who shall vend or sell any such drug, nostrum, ointment or appliance without having a license so to do, shall, if found guilty, be fined in any sum not less than one hundred dollars, and not exceeding two hundred dollars for each offense, to be recovered in an action of debt before any court of competent jurisdiction. But such board may for sufficient cause refuse such license."

The penalty for practising medicine or surgery without the certificates issued by this board is one hundred dollars for the first offense, and two hundred dollars for each subsequent offense, the same to be recovered in an action of debt, before any court of competent jurisdiction: any person filing or attempting to file as his own the diploma or certificate of another, or a forged affidavit of identification is declared guilty of a felony, and upon conviction, will be subject to such fine and imprisonment as are made and provided by the statutes of the State for the crime of forgery.

Upon conviction of either of the offenses mentioned in this act, the defendant is to be committed to the common jail of the county until the fine and costs are paid. But either party may appeal in the same time and manner as appeals may be taken in other cases, except that where an appeal is prayed in behalf of the people, no appeal bond is required to be filed, whether the appeal be from a justice of the peace, or from the county or circuit court or from the appellate court. That is, the State Board of Health may appeal its cases without bond.

#### MEDICAL NOTES.

—The United States Consul at Baranquilla, under date of May 26, forwards a copy from the *Star and Herald*, of Panama, under date of May 19, relative to the inoculation for the prevention of yellow fever, as follows: "A letter from Cucuta, Santander, dated April 14th, says: 'On the 6th, I sent you a telegraphic message containing important information. I told you how successful inoculation is proving here for yellow fever. About ten per cent. of the inoculation patients are attacked by the disease, but none of them die. The heat is intense; ranges between 34° and 38° centigrade.' Cucuta is not far from the place where yellow fever seems to have its headquarters." At Key West thirty-one cases of yellow fever and eleven deaths were reported up to June 18th.

BOSTON.

—During the recent Annual Meeting of the Massachusetts Medical Society the following interesting operations, the description of which reached us too late to be inserted in our report of the meeting, were performed in the amphitheatre of the Massachusetts General Hospital before a large number of the Fellows. Dr. Beach performed an excision of the knee for anchy-

losis with deformity, following tubercular disease of the joint; removed a congenital cyst from the upper eyelid and border of the orbit; applied the actual cautery for recurrent epithelial disease of the face; tapped a hydrocele, withdrawing three quarts of serum; and removed two uric-acid calculi, weighing thirty-one and twenty-nine grains respectively, by lateral lithotomy, from a three-year-old child. Dr. John Homans removed a tumor of the neck, of twenty-five years' duration, with a circumference of thirty-nine inches, which weighed thirty-two pounds. Dr. Porter performed amputation of the thigh for long-standing disease of the knee-joint.

Between the operations Dr. Beach showed a patient, aged eighty, from the back of whose hands symmetrical cancer had been removed in April and the resulting wounds entirely healed by means of skin and sponge grafts; a stone one-and-seven-eighths inches by three-and-one-fourth inches, weighing one hundred and ninety grains, removed from a boy of fourteen, and a second stone weighing two hundred and forty grains, from a boy aged eight years. The stone first mentioned was almond-shaped and its appearance suggested the incrustation of some foreign body previously introduced. Upon section and analysis, Professor Wood pointed out the interesting fact that the elongated nucleus was due to a gradual growth upon the end of the stone held by the lower end of the ureter, and as it grew, it was projected forward upon the floor of the bladder in the direction of the internal meatus. The direction of the striæ in the nucleus, which was composed of oxalate of lime, substantiated this theory — afterwards the stone had become enlarged by the deposition of urate of ammonia and phosphates. Both stones were successfully removed by lateral lithotomy; also a recovery from caries of the tarsus in child, after excision of the astragalus and scaphoid.

Dr. Warren exhibited a case of recovery after dislocation of cervical vertebrae, and showed the apparatus for maintaining a gastric fistula in his recent case of gastrotomy for malignant stricture of œsophagus. He also showed the patient upon whom Dr. M. H. Richardson performed gastrotomy for removal of a plate of artificial teeth, a patient whose knee Dr. Richardson had excised in 1886, and a successful case of resection of the musculo-spiral nerve, done a year ago by Dr. Richardson.

NEW YORK.

—The medical bill recently passed by the Legislature has been signed by the Governor.

—A case of hydrophobia at Nyack, on the Hudson, terminated fatally on the 23d. Dr. Wm. A. Hammond saw the patient, who was an adult, in consultation with the Nyack physicians the day before death occurred, and pronounced it undoubtedly genuine rabies.

—Dr. Woolsey Johnson, recently one of the Health Commissioners of the city, died June 21st, of Bright's disease, at the age of forty-five. He was graduated at the College of Physicians and Surgeons in 1863,

and afterwards continued his medical studies at Paris and in Germany. He devoted himself more particularly to diseases of the throat, and was at one time lecturer in this branch at the College of Physicians and Surgeons; while for many years he was a visiting physician to the New York Hospital and the New York Eye and Ear Infirmary. He was very highly esteemed in the community, and was a prominent member of several of the best known New York clubs.

### Correspondence.

#### LETTER FROM BERLIN.

BERLIN, June 13, 1887.

MR. EDITOR.—The Museum of the Pathological Institute of Berlin, has reached proportions which are remarkable. The office of custodian has hitherto fallen to the first assistant of Professor Virchow, and has been quite acceptably filled for the past fourteen years by Dr. Juergens; it has, however, grown to such dimensions as to demand a custodian especially appointed. It has increased from the union of two collections, that belonging to the Charité and a part of the Anatomical Museum of the University. The latter was separated from the Anatomical Museum in 1858, when an independent professor of pathological anatomy was first named. Professor Reichert, who was then director of the Museum, clung to his rights so tenaciously, that it was twelve or sixteen years before the preparations were removed, and then only in part. The entire collection was not removed until after his death. Part of these specimens came down from the earlier years of the last century. Of special worth are the preparations left by Johannes Mueller, constituting as they do, the evidence of his pathological and anatomical work. The Charité collection, which was the ground-work of the Museum, began to assume important proportions in the third decade of the present century. Its originator was Philip Phœbus, who was less known as pathological anatomist than by his labors in pharmacology and through his general usefulness. His industry has left us writings which remain to this day. He is particularly known in his dealing with the regions of the heart. His successor was Robert Frossep. His most important work was not in the field of pathological anatomy, either. Professor Virchow became prospector in 1846, and continued until 1849. The successors of Virchow were his friend Benno Rheinhardt, who, with Professor Virchow, originated the Archives of Pathological Anatomy; and Heinrich Meckel, of Heinsbach. Both died in early life, the victims of consumption. Meckel was the friend of the poet Leneu, who died insane. Meckel examined his brain, and published a carefully prepared report. In 1858, the Museum was again put under Virchow's direction, and it continued to grow until it is one of the first of its kind, both as to the number and worth of its specimens. Pathological anatomy is now the great incentive to a visit to Berlin. Virchow's reputation attracts students and practitioners from every part of the globe; it is true that the man is over-run with politics, the affairs of State, and his many other interests. His lectures can be read as well as heard; he is usually tardy, frequently absent, very cross and irritable, yet he has a great reputation, and men crowd to his lectures.

The University of Berlin has about 2,000 medical students, 6,000 of all kinds. In the medical department there are 44 professors, 37 doctents, and 69 assistants.

Some of the professors of the medical department realize quite snug little sums from their teaching. Suppose, for instance, as is usually the custom, each student pays 50 marks (\$12.00) per semester for his instruction. Say from 150 to 300 take a certain professor's lectures. He then receives \$1,800 to \$3,600 for his six months' work,

which six months, omitting holidays and tardiness in beginning, is reduced to five months. For this, however, he lectures every day or nearly so, sometimes twice in one day, and frequently two hours at a time. The professors depend largely on their teaching, of course, and give it much time and attention. Many students do not pay cash, however. The professor gives to such, time to finish their course, get out into practice, and make the money to pay for their instruction. The student has not enough money to pay for his beer, knipe, duelling expenses, and lectures too, so the latter is deferred. It is considered a debt of honor, though, and payment is seldom avoided. If the man dies and leaves nothing behind, the Professor loses his money. For years afterward, he receives frequent small installments for a former semester's course of lectures.

The students are required to attend nine semesters, four-and-one-half years, before graduating. Examinations are frequent and they do not take up much at a time. There are several professors on each branch, and if a student is expecting to be examined on some department, he can spend almost the entire day in attending clinics and listening to lectures on that subject. The professor examines about four or six at a time, two or three times a week. The examinations are oral and clinical.

Berlin maintains ten medical societies: the Gesellschaft der Charité Aerzte, Dr. M. Molhausen, President; Professor Henoch, Secretary; six members, meets every two weeks. Gesellschaft fuer Geburtshilfe und Gynecologie, Professor Olshausen, President; Dr. A. Martin, Secretary; nine members, meets fortnightly. Gesellschaft fuer Heilkunde, Dr. Cock, Secretary; 165 members, meets annually. Gesellschaft fuer Naturwissenschaft und Heilkunde, Prof. R. Hartmann, President, Dr. Oertels, Secretary; 52 members, meets monthly. Gesellschaft fuer Nervenheilkunde, Prof. Westphal, President, Prof. Bernhardt, Secretary; 92 members, meets monthly. Medicinische Gesellschaft, Prof. R. Virchow, President, Prof. B. Fränkel, Secretary; 652 members, meets weekly. Physiologische Gesellschaft, Prof. Du Bois Reymond, President, Prof. Hirschley, Secretary; 151 members, meets fortnightly. Psychiatrischer Verein, Dr. Lehr, President, Prof. Guttschaft, Secretary; 112 members, meets quarterly. Verein fuer Innere Medicine, Prof. Leyden, President, Prof. Paul Guttman, Secretary; 230 members, meets fortnightly. Vacations and holidays very greatly reduce the annual number of meetings. As will be seen, the Medicinische Gesellschaft is the leading medical society of the city. It meets in a fine large hall with generally 150-300 members present and is a power in the land. This society has a large library for the benefit of its members.

Berlin has 30 hospitals, containing 5,000 beds. Two thousand of these are in the Charité, by far the largest hospital in the city. Berlin has 1,150 physicians, 8.98 per 10,000 inhabitants, 65 dentists, and 88 druggists. Prussia has 9,071, or 8.84 per 10,000 inhabitants, 275 dentists, 2,519 druggists, 1,420 hospitals, with 72,808 beds. Germany has 15,783 physicians, 48 per 10,000, 470 dentists, 4,624 druggists, 2,645 hospitals, with 128,306 beds. While these statistics show the low rate of physicians, as compared with the United States, it gives a large number of hospitals and beds, which makes the difference. So many more in Germany receive free treatment at the hospitals, that there are fewer pay-patients left. Yet I think, with the small number of physicians, they might get on without grumbling. What if they had one physician for every 500 inhabitants, and old women were permitted to practice!

It may be of interest to American physicians to know a few of the legal rates allowed German physicians and surgeons for their work. Remember that a mark is a quarter, or about twenty-three and one-half cents: Light, natural labor, 6-15 marks; twin, 9-24 marks; natural, but tedious labor, day and night, 12-15 marks; foot-presentation, 12-30 marks; turning, 12-36; forceps, 12-30 marks; craniotomy, 30-60; Cesarean section, living woman, child alive or not, 30-60; same, dead woman, 12-24; removal of unripe ovule or mole, 8-12. Examination of pregnant

woman, 1.50-6 marks. Writing a full report of case, 1.55-3 marks.

Surgery: Trephining, 24-36 marks. Strabismus, operation, one eye, 24-45; both eyes, one-half more. Extirpation epithelioma of the lip, 12-24; second operation, one-half as much more. Enucleation of the eye, 12-36 marks; hair-lip, 12-24 marks. Excision of the tonsils, 9-18 marks. Removal of nasal polypus, 18-80 marks. Catheterization, men, 3-6; women, 1.50-3 marks. Foreign body in the oesophagus, 6-12 marks. Tracheotomy, 18-86 marks. Excision of the breast, 24-45 marks. Paracentesis thoracis, 15-20 marks. Circumcision, 6-12 marks. Castration, 30-60 marks. Cut for stone, 60-150 marks. Amputation upper arm and leg, 24-45 marks. Reposition dislocated arm, 9-18 marks. Setting broken collar-bone, 9-16 marks; neck of femur, 12-24 marks. Blood-letting, 2-6 marks. Assistant at operation, 3-9 marks. Post-mortem, 6-12 marks.

Physicians' visits in the city, first two, 4 marks; each successive visit, with prescription, 1-2 marks. Patient

one mile from city, first visit, 6-8 marks; each succeeding visit, 2-8 marks. Contagious fevers, charges doubled. Night visits, first, 6-9 marks; each following, 3-6 marks.

Only two visits daily can be charged for. Prescriptions in office, one-third to three-fourths mark. First consultation, 4.50-9 marks; each succeeding, 2.25-3 marks.

These fees, as may be readily seen, are very low. They are not followed closely, however, but are the legal fees, and are the amounts which may be collected by law. They have been in force since 1815, but usually these rates are exceeded.

As a contrast to these small figures, we may now view some large ones. As nearly as your correspondent could ascertain, Professor Schroeder enjoyed from his practice an income of 250,000 marks annually, Gussow 150,000 marks, Martin, 100,000 marks, while Waldeyer, from his teaching, realizes 25,000 marks yearly. Martin has been known to ask and receive 4,500 marks for an ovariotomy.

M.

## REPORTED MORTALITY FOR THE WEEK ENDING JUNE 18, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Scarlet Fever.	Diph. & Croup.	Diarrhoeal Diseases.
New York . . . . .	1,481,920	680	278	24.00	15.15	2.85	7.80	7.80
Philadelphia . . . . .	903,801	341	129	12.76	11.60	—	2.03	6.96
Brooklyn . . . . .	745,108	290	115	22.05	10.85	3.15	8.06	6.65
Chicago . . . . .	725,000	—	—	—	—	—	—	—
St. Louis . . . . .	420,000	—	—	—	—	—	—	—
Baltimore . . . . .	417,000	127	59	24.40	14.07	—	3.94	16.53
Boston . . . . .	400,000	138	40	14.60	21.17	.73	4.38	1.46
New Orleans . . . . .	242,750	136	57	24.42	8.14	—	.74	17.76
Buffalo . . . . .	225,000	—	—	—	—	—	—	—
District of Columbia . . . . .	210,000	112	70	34.71	6.23	—	1.78	28.43
Pittsburgh . . . . .	210,000	112	72	46.61	8.92	—	3.56	38.27
Montreal . . . . .	186,227	—	—	—	—	—	—	—
Milwaukee . . . . .	170,000	47	31	10.65	8.52	—	2.13	4.26
Providence . . . . .	121,000	—	—	—	—	—	—	—
Richmond . . . . .	100,000	61	28	24.60	11.48	—	—	24.60
New Haven . . . . .	80,000	—	—	—	—	—	—	—
Nashville . . . . .	65,000	21	9	33.32	9.52	—	—	19.04
Charleston . . . . .	60,145	50	16	26.00	12.00	—	—	16.00
Portland . . . . .	40,000	—	—	—	—	—	—	—
Worcester . . . . .	68,383	28	16	17.85	10.71	3.87	—	7.14
Lowell . . . . .	54,051	33	15	21.74	8.58	—	2.86	11.44
Cambridge . . . . .	59,690	16	6	25.00	18.75	—	6.25	6.25
Fall River . . . . .	56,863	—	—	—	—	—	—	—
Lynn . . . . .	45,861	12	3	8.33	8.33	—	—	—
Lawrence . . . . .	38,825	13	5	—	15.38	—	—	—
Springfield . . . . .	37,577	—	—	—	—	—	—	—
New Bedford . . . . .	35,385	14	7	7.14	14.28	—	—	7.14
Somerville . . . . .	29,992	—	—	—	—	—	—	—
Salem . . . . .	28,084	8	1	—	25.00	—	—	—
Holyoke . . . . .	27,894	6	2	16.66	16.56	—	—	16.66
Chelsea . . . . .	25,709	12	6	8.33	16.66	—	—	—
Taunton . . . . .	23,074	6	0	—	33.33	—	—	—
Haverhill . . . . .	21,795	8	4	25.00	50.00	—	12.50	12.50
Gloucester . . . . .	21,713	—	—	—	—	—	—	—
Brockton . . . . .	20,783	4	0	—	50.00	—	—	—
Newton . . . . .	19,759	10	2	—	—	—	—	—
Malden . . . . .	16,467	2	1	—	—	—	—	—
Fitchburg . . . . .	15,375	—	—	—	—	—	—	—
Waltham . . . . .	14,609	—	—	—	—	—	—	—
Newburyport . . . . .	13,716	7	3	28.56	28.56	—	28.56	—
Northampton . . . . .	12,896	1	—	—	—	—	—	—

Deaths reported 2,297; under five years of age 975; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas and fevers) 506; consumption 293, acute lung diseases 196, diarrhoeal diseases 256, diphtheria and croup 107, scarlet fever 30, typhoid fever 24, malarial fever 24, measles 24, cerebro-spinal meningitis 16, whooping-cough 14, erysipelas six, puerperal fever four, small-pox (New York) one. From measles New York six, Lowell four, Philadelphia three, Brooklyn, Boston, New Orleans and Cambridge two each, Pittsburgh, Chelsea and, Charleston one each. From typhoid fever, Philadelphia six, New York five, Charleston four, Boston three, Worcester two, Brooklyn, Baltimore, New Orleans, Pittsburgh and Lawrence one each. From malarial fever, Brooklyn seven, New York six, New Orleans five, Baltimore and Nashville, three each. From cerebro-spinal meningitis, New York 11, District of Columbia two, Philadelphia, Boston, Milwaukee one each. From

whooping-cough, New York and Boston, four each, Philadelphia two, District of Columbia and Milwaukee one each. From erysipelas, New York three, Brooklyn, Boston, and Lynn one each. From puerperal fever, District of Columbia two, New York and Philadelphia one each.

In the 28 greater towns of England and Wales, with an estimated population of 9,344,069, for the week ending June 4th, the death-rate was 19.5. Deaths reported 3,432; infants under one year of age 755; acute diseases of the respiratory organs (London) 264, measles 252, whooping-cough 143, scarlet fever 44, diarrhoea 34, diphtheria 26, fever 22.

The death-rates ranged from 12.8 in Derby to 30.5 in Manchester; Birmingham 18.8; Bradford 18.1; Hull 18.3; Leeds 17.5; Leicester 15.3; Liverpool 22.6; London 17.9; Nottingham 20.0; Sheffield 19.3; Sunderland 22.9; Wolverhampton 23.2.

In Edinburgh 20.0; Glasgow 20.4; Dublin 21.4.

The meteorological record for the week ending June 18, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount in Inches.
Saturday, June 18, 1887.																			
Sunday,....12	30.19	62.0	68.0	53.0	49.0	44.0	50.0	48.0	S.W.	E.	S.	2	12	6	C.	C.	C.	C.	
Monday,....13	29.91	71.0	82.0	58.0	64.0	41.0	48.0	51.0	N.	N.W.	S.	8	10	10	C.	C.	C.	C.	
Tuesday,....14	30.16	58.0	74.0	56.0	74.0	62.0	66.0	67.0	N.E.	E.	S.E.	23	18	4	O.	C.	C.	C.	
Wednesday,....15	30.20	58.0	71.0	50.0	67.0	63.0	79.0	70.0	S.E.	E.	S.W.	6	17	14	O.	C.	C.	C.	
Thursday,....16	29.81	69.0	80.0	52.0	66.0	55.0	71.0	61.0	S.W.	S.W.	W.	12	18	20	F.	F.	O.	O.	
Friday,....17	29.69	68.0	77.0	65.0	74.0	75.0	77.0	75.0	N.	E.	S.W.	12	12	9	O.	F.	O.	O.	
Saturday,....18	29.75	61.0	68.0	58.0	61.0	60.0	55.0	58.0	N.E.	E.	S.	10	12	4	C.	F.	F.	F.	
Mean, the Week.	29.938	64.3	63.0	56.0				61.6											

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., haze; S., smoky; R., rain; T., threatening; SL, Sleet; t, Inappreciable.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 18, 1887, TO JUNE 24, 1887.

**BARTHOLOMEW, J. H.**, major and surgeon. Granted leave of absence for two months, to take effect about July 5, 1887. S. O. 141, A. G. O., June 20, 1887.

**RICHARD, CHAS.**, captain and assistant surgeon. Sick leave extended two months on surgeon's certificate of disability. S. O. 139, A. G. O., June 17, 1887.

**COCHRAN, JNO. J.**, captain and assistant surgeon. Granted leave of absence for one month. S. O. 143, A. G. O., June 22, 1887.

**BORDEN, W. C.**, first lieutenant and assistant surgeon. Granted leave of absence for one month. S. O. 138, A. G. O., June 16, 1887.

**SUTER, WM. A.**, first lieutenant and assistant surgeon. Designated as medical officer for the Rifle Camp at Creedmoor, N. Y., July 5, 1887. S. O. 124, Division of the Atlantic, June 31, 1887.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING JUNE 25, 1887.

**CLERK, C. J.**, medical inspector. Ordered for examination preliminary to promotion as medical director.

**LUMSDEN, G. P.**, passed assistant surgeon. Ordered to Receive Ship "Franklin," Norfolk, Va.

**HORWITZ, P. J.**, medical director. Permission to leave the United States for six months.

**HARRIS, H. N. T.**, assistant surgeon. Commissioned assistant surgeon in the navy June 13, 1887.

**SPEAR, J. C.**, medical inspector. Detached from Naval Laboratory and granted three months leave.

**BLOODGOOD, DELAVAN**, medical director. Detached from Naval Hospital, Norfolk, Va., and to the Naval Laboratory.

**BRADLEY, MICHAEL**, medical inspector. Ordered to Naval Hospital, Norfolk, Va.

**BEYER, H. G.**, passed assistant surgeon. Remain on present duty until September 1, 1887.

**HERNDON, C. G.**, passed assistant surgeon. Remain on present duty until June 17, 1888.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING JUNE 18, 1887.

**BRATTON, W. D.**, assistant surgeon. To proceed to Seattle, W. T., on special duty, June 8, 1887. When relieved to rejoin station at San Francisco, Cal., June 11, 1887.

**WATKINS, R. B.**, assistant surgeon. Granted leave of absence for thirty days, June 8, 1887.

**HEATH, F. C.**, assistant surgeon. To proceed to Marine Hospital, Detroit, Mich., for temporary duty, June 17, 1887.

#### BOOKS AND PAMPHLETS RECEIVED.

Cornell University. Announcement of the School of Pharmacy for the Year 1887-88.

Annual Report of the Carney Hospital for the Years 1885-86, Boston, 1887.

The Sixty-Third Annual Report of the Officers of the Retreat for the Insane, at Hartford, Conn. April, 1887.

Practical Examples in Prescription Writing. By Charles H. May, M.D. Issued for the Use of his Quiz Classes.

Transactions of the American Gynecological Society, Vol. 11. For the year 1886. New York: D. Appleton & Co., 1887.

Certain Causes of Sterility in the Female and their Treatment. By Egbert H. Grandin, M.D., of New York. (Reprint.)

Electricity and Life: or, the Electro-Vital Theory of Nature. By Edward C. Towne, B.A. Cambridge: Charles W. Sever. 1887.

Notes on the Treatment of Amenorrhoea with Permanganate of Potash. By Thomas A. Ashby, M.D., of Baltimore. Baltimore, 1887. (Reprint.)

Abdominal Surgery, by J. Greig Smith, M.A., F.R.S.E. Surgeon to the Bristol Royal Infirmary, etc. Philadelphia: P. Blakiston Son & Co., 1887.

Pelvic Inflammations: or Cellulitis versus Peritonitis. By Thomas Addis Emmet, M.D., Surgeon to the Woman's Hospital, New York. 1886. (Reprint.)

Iodol: an Effective Substitute for Iodoform. By R. Norris Wolfenden, M.D., Cantab., Senior Physician to the Hospital for diseases of the Throat. Golden Square, London.

A Case of Nephrolithotomy during the Fifth Month of Pregnancy. By Louis McLane Tiffany, M.D., Professor of Surgery in the University of Maryland. 1887. (Reprint.)

First and Second Special Reports upon the Improvement in the Scale of Diet in the Imperial Japanese Navy, for the Seventeenth and Eighteenth Years of Meiji (1884 and 1885).

Transactions of the Eighth Annual Meeting of the American Laryngological Association. Held in the City of Philadelphia, May 27-29, 1886. New York: D. Appleton & Co., 1887.

Congenital Occlusion of the Posterior Nares. By Alvin A. Hubbell, M.D., Buffalo, N. Y., Professor of Diseases of the Eye, Ear, and Throat, in the Medical Department of Niagara University, etc. 1886. (Reprint.)

Some Observations upon the Modern Treatment of Urethritis. By George E. Brewer, M.D., Assistant Surgeon to the Outdoor Department of Roosevelt Hospital. New York: Wm. Wood & Co. 1887. (Reprint.)

The Climatic Treatment of Consumption. A Contribution to Medical Climatology. By James Alex. Lindsay, M.A., M.D., Physician to the Consumptive Hospital, Thronemount, Belfast, etc. London: Macmillan & Co. 1887.

Nasal Reflexes as a Cause of Diseases of the Eye. By W. Cheatham, M.D., Lecturer on Diseases of Eye, Ear, Throat and Nose, University of Louisville; Eye, Ear, Throat and Nose Physician to Louisville City Hospital. 1887. (Reprint.)

A Practical Treatise on Renal Diseases and Urinary Analysis. By William Henry Porter, M.D., Professor of Clinical Medicine and Pathology in the New York Post-Graduate Medical School and Hospital; Curator to the Presbyterian Hospital. One Vol. 100 Illustrations. New York: Wm. Wood & Co.

A Practical Treatise on Obstetrics. Vol. IV. Obstetric Operations. The Pathology of the Puerperium. By A. Charpentier, M.D., Paris. Illustrated with lithographic plates and wood engravings. Being also Volume IV of the "Cyclopaedia of Obstetrics and Gynecology." New York: Wm. Wood & Co.

